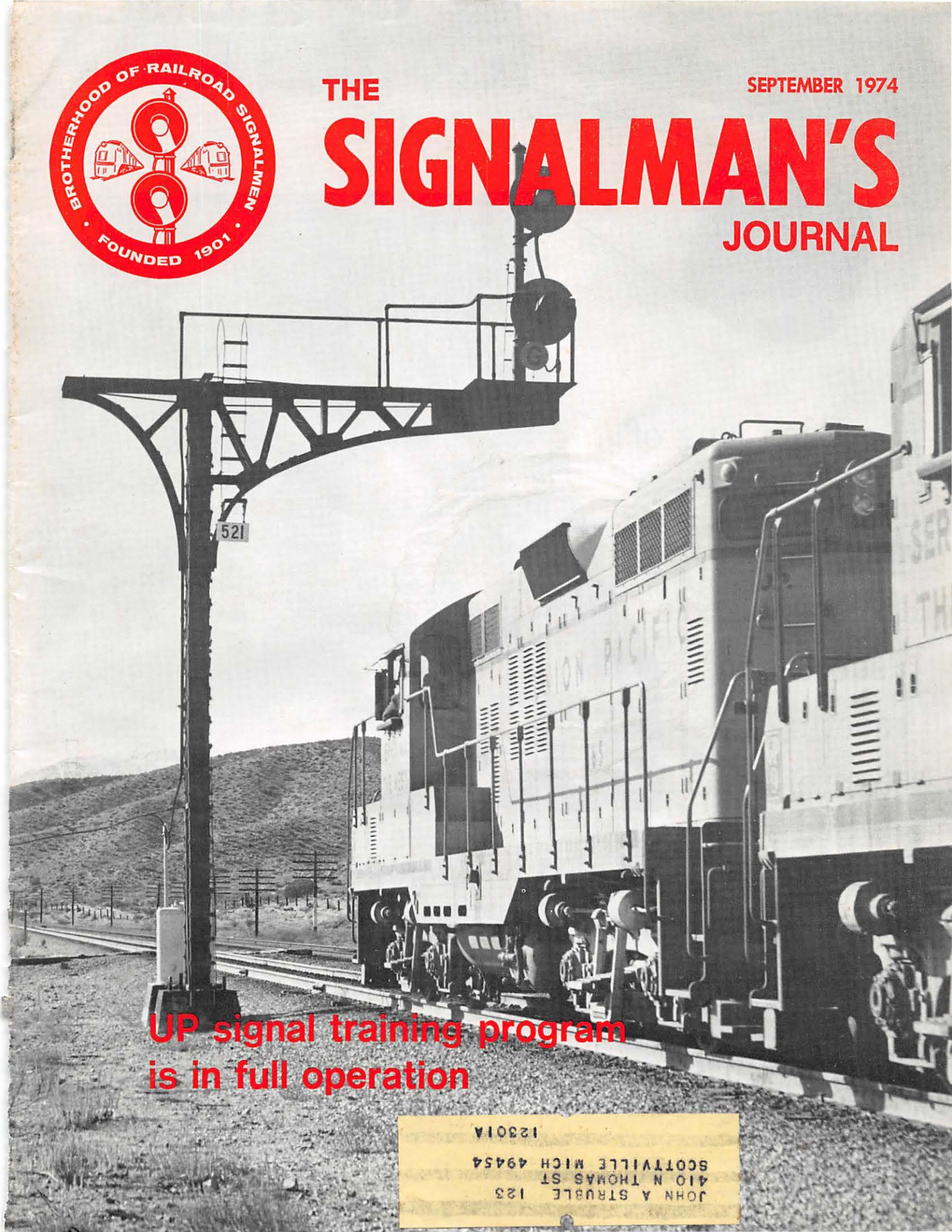
SEPTEMBER 1974

# THE SIGNALMAN'S JOURNAL




## UP signal training program is in full operation

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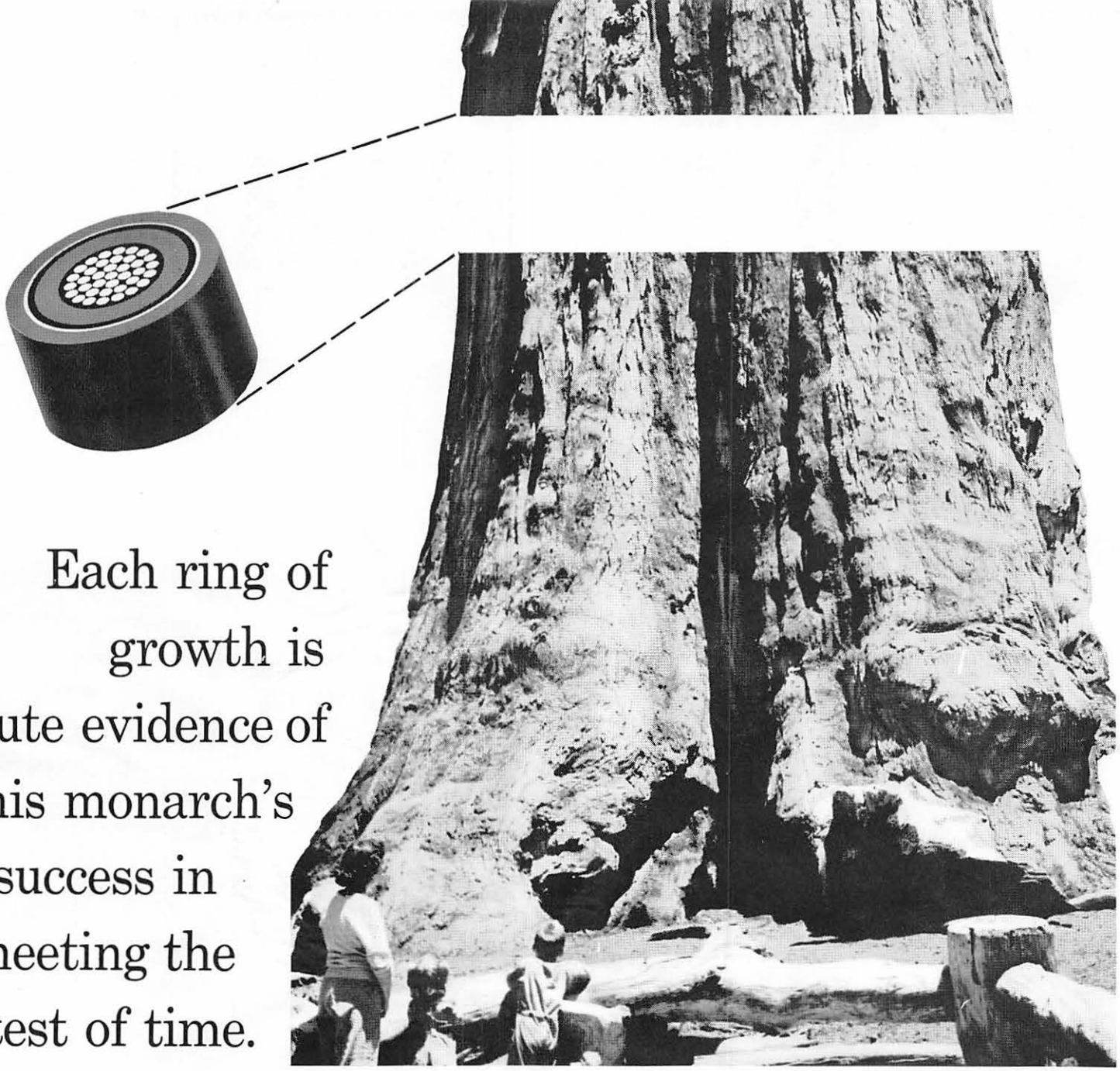

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THE
# SIGNALMAN'S JOURNAL

OFFICIAL PUBLICATION BROTHERHOOD OF RAILROAD SIGNALMEN
Robert W. McKnight, Editor and Manager
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**September 1974**
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# Chamberlain's Message

*Editor's Note: This is essentially full text of a talk presented at the Communication & Signal Section, AAR annual meeting in Atlanta, GA on Sept. 16, 1974.*

Partners in Progress is the theme of my talk today—about how railway labor and railway management are working together to make our industry a better industry. We, in railway labor, have supported railway managements in their quest to secure enlightened federal legislation to improve the lot of the industry.

**Of great importance is the revitalized Railroad Retirement Fund.** The bill for this has been passed by the House Commerce Committee. Senate hearings were held during the last two weeks, and we are confident that the near future will see this legislation enacted. There is no doubt in my mind that enactment of this legislation came about as a result of the combined efforts of railroad labor and management. Particularly notable has been the desire of labor and management to reach an agreement and the cooperation displayed by both parties in attaining that objective.

**In other legislative matters, railway unions have supported and in many cases testified before Congressional committees asking for passage of legislation for the Transportation Improvement Act; railroad labor supported the 10% rate increase for the railroads; we have supported improved safety legislation; and we have supported requests for more funds for research and development to be carried out by the Federal Railroad Administration.**

**The Brotherhood of Railroad Signalmen has played an active part in all of the foregoing endeavors. In addition, we have been and will continue to cooperate with rail managements and specifically with signal engineers to implement grade crossing safety programs.** These programs, now using federal and state funds, are beginning to make their mark, not only on us in the signaling field, but upon those in the highway departments of the states, local governments and, of course, in the Federal Highway and Railroad Administrations.

As pointed out by speakers at last month's National Rail - Highway Grade Crossing Conference in Colorado Springs, in which we participated, safety at these crossings can be improved, and federal money is now available to carry forward these safety improvement programs, and we stand ready to work with you in this great effort to save lives.

We realize, as I am sure you do, that you will need more signal employes to install and to maintain these automatic warning devices. We are willing to work with you in obtaining these new employes and in training them.

We look upon this grade crossing safety improvement program as a golden opportunity for the railway industry to prove to the motoring public that it can be a good neighbor. For signal engineers, this safety program should be and certainly can be the incentive to hire more signal employes for installation and maintenance. As for cost, under the highway aid and safety bills of 1973, funds will be on a 90% federal, 10% state basis. As for details, I might mention that the AAR has an excellent booklet titled "Grade Crossing Safety" which tells how federal funds can be obtained, and generally spells out the funding for these safety programs.

In addition to money for installation of automatic warning devices, some states provide funds for the maintenance of these devices. It was brought out at the Grade Crossing Conference in Colorado Springs that maintenance funding ranges from $300 to over $600 per crossing per year, depending upon the state and the complexity of the automatic warning devices in service.

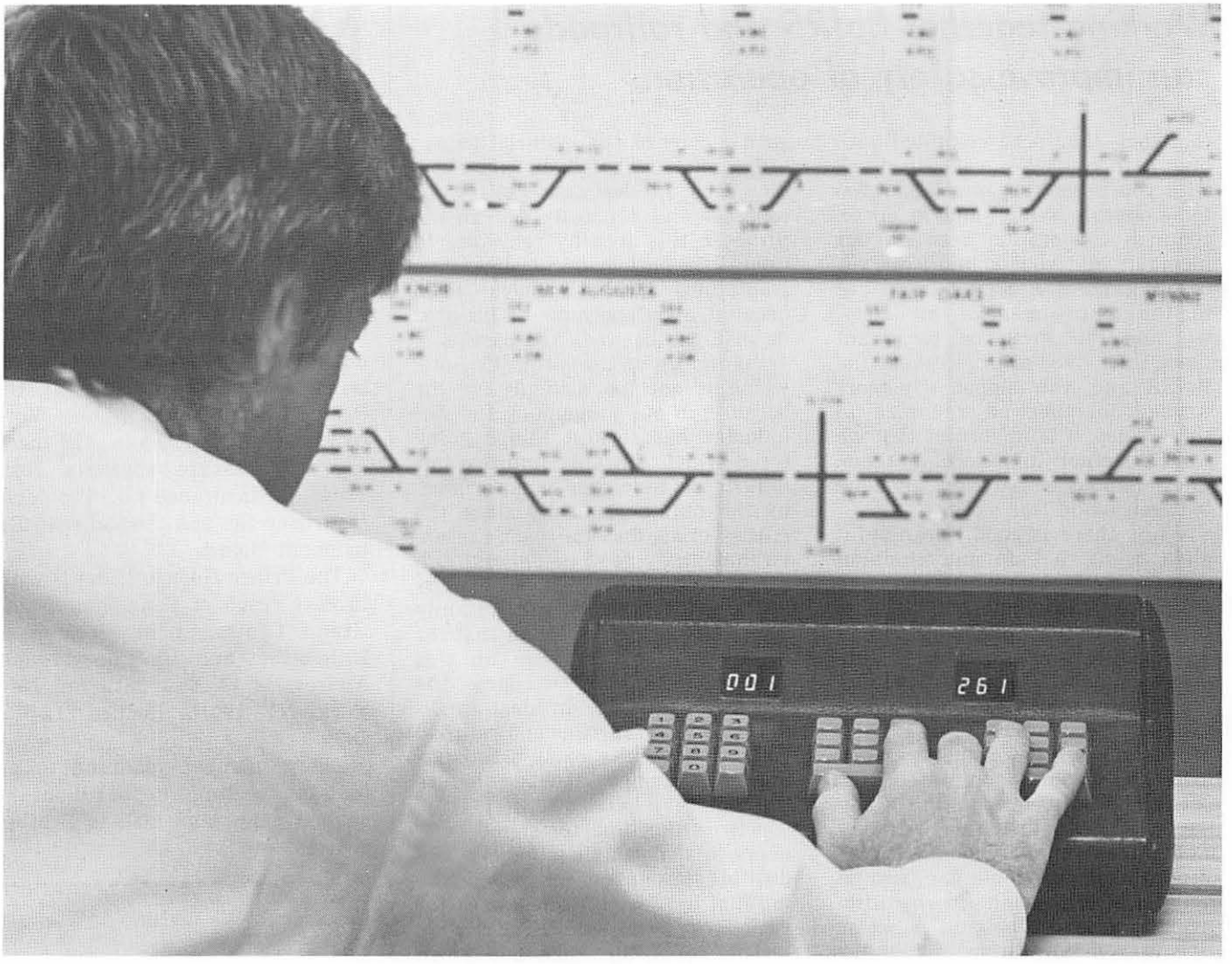
It would seem to us that this is a pretty good deal for the railroads, and certainly should be an incentive to upgrade safety at highway-railroad grade crossings.

Additionally, with the hiring of new men to install these devices, railroad signal engineers would be able to implement or expand existing signal training programs. In fact, it would be an excellent way for implementing a training program for new employes. The new men could work on the installation phases, and after completing signal training programs that included classroom instruction, these men would be available for further construction work or for maintenance positions. With retirement at age 60 with 30 years' service soon to be meaningful on passage of our pending legislation, the need for new signal employes will be even greater in the immediate future.

**On the subject of grade crossing safety, the BofRS has established a special committee made up of competent, skilled signalmen that are developing standards for the installation and maintenance of automatic warning devices for highway-railroad grade crossings. We are ready, willing and able to work with you—the signal engineers of the railroads—and with the Federal Railroad Administration in coming up with standards that are reasonable, practical and enforceable. We want standards that the BofRS, the railroads and FRA can live with.** The multiplicity of warning systems, the various vehicular and rail traffic configurations make it essential that standards be developed that can apply in every state to assure the motoring public that we in the railroad industry do care about their safety. After all, all of us are part of the motoring public, and improving safety at grade crossings is beneficial to us, too!

There is another area of safety that I would briefly like to mention, namely the Signal Rules, Standards and Instructions that are in force right now. I believe very strongly

*(Please turn to page 6)*

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## *Working together BofRS and railroads can improve safety of operations*

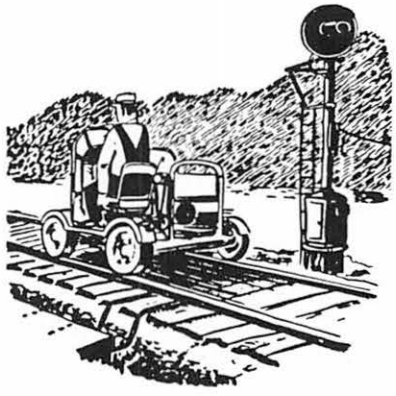
that they should be complied with and enforced. We want to work with you in making our signal systems operate safely, and to do so, requires cooperation between our members and your signal supervisors. Because the Signal RS&I are for the improvement of rail safety, we, and I'm sure you too, want these rules lived up to. Because the BofRS and you signal engineers worked together on revisions to these rules, it is important that we work together in enforcing them. There should be a better dialogue between us on this subject.

While there is good, meaningful dialogue at the top among union officers and rail executives, our efforts are meaningless unless this communications technique filters down and is practiced at the middle management and working levels of the railroad industry. In our judgement, there is a vast need for improvement in relations between our local and general committee officers and Carrier officers in the signal and communications departments. We strongly recommend that you call on our general chairmen and local chairmen more often when you have problems. A better line of communication and better dialogue could go a long way to prevent and solve many problems at that level. Let's work together to solve our problems at the local level, where the facts are fresh and most everyone involved is knowledgeable about them. Problems tend to magnify in size and importance as they move upward in the corporate and union hierarchy. We want to work with you to resolve them or at least keep them down to manageable size.

Another matter I would like to briefly mention pertains to your applications for signal changes. In my judgement, it would be in the best interests of all concerned if you would contact our representatives on the property or our officers and tell them of the proposed changes in your signal systems. Not only do we have men out in the field who know the local conditions, but we can help support your applications when they are in the interests of safety. When you send signal change applications to the Federal Railroad Administration, it would be most helpful if you could send a copy of the material to our office, and we can help you expedite such applications. Let's work together and hopefully we can improve in this area by removing in total or in part many needless confrontations which have been brought about because of little or no dialogue between the parties.

I'll end up on an optimistic note, which is not too difficult for me because, in our judgement, the rail industry has several things going for it which can only improve our industry as time goes by: awareness by the public primarily since the energy crisis that railroads are environmentally good neighbors; railroads are the most efficient haulers of the nation's goods; and certainly a most important factor in that for most roads earnings are up this year over last year. Of course, the last factor provides an ideal atmosphere for the railroads and railroad labor to hopefully reach a satisfactory wage-fringe package before the contract expires on Jan. 1, 1975.

**Now is the time for signal engineers to sharpen their pencils and dust off those plans for new signaling that have been pushed back for various reasons. With increasing traffic, and future demands which will be placed on the industry in the years ahead, you are going to need those signals. We can and will work with you to make the railroad industry in the United States and Canada the safest, most efficient form of transportation.**



# News

## Regional meeting set for Oct. 5 in New York

Saturday October 5, 1974 will provide an opportunity for all members and officers of the Brotherhood of Railroad Signalmen residing in the northeastern U.S. to attend a regional meeting at the Prince George Hotel in New York City. Beginning at 9 a.m., the meeting will feature speakers from Travelers Insurance Co., Provident Insurance Co. and the Railroad Retirement Board.

The Prince George Hotel is within easy reach of Penn Station and Grand Central, being located at 28th street and Madison Avenue. Address is 14 East 28th St., New York, NY 10016. Phone: 212-532-7800.

Every member planning to attend the meeting, should fill out the coupon below and mail to Brother Walsh.

---

To: **Joseph W. Walsh,**
Vice-President
Brotherhood of
Railroad Signalmen
601 West Golf Road
Mt. Prospect, IL 60056

I will attend the New York regional meeting on Saturday Oct. 5, 1974

**Name** .....

**Address** .....

.....

**Local No.** .....

## SCL receives ok to install ctc

Seaboard Coast Line has received approval from FRA's Railroad Safety Board to install approximately 163 miles of centralized traffic control in Georgia and Florida. SCL will install ctc replacing abs on single main track be-

*(Please turn to page 24)*

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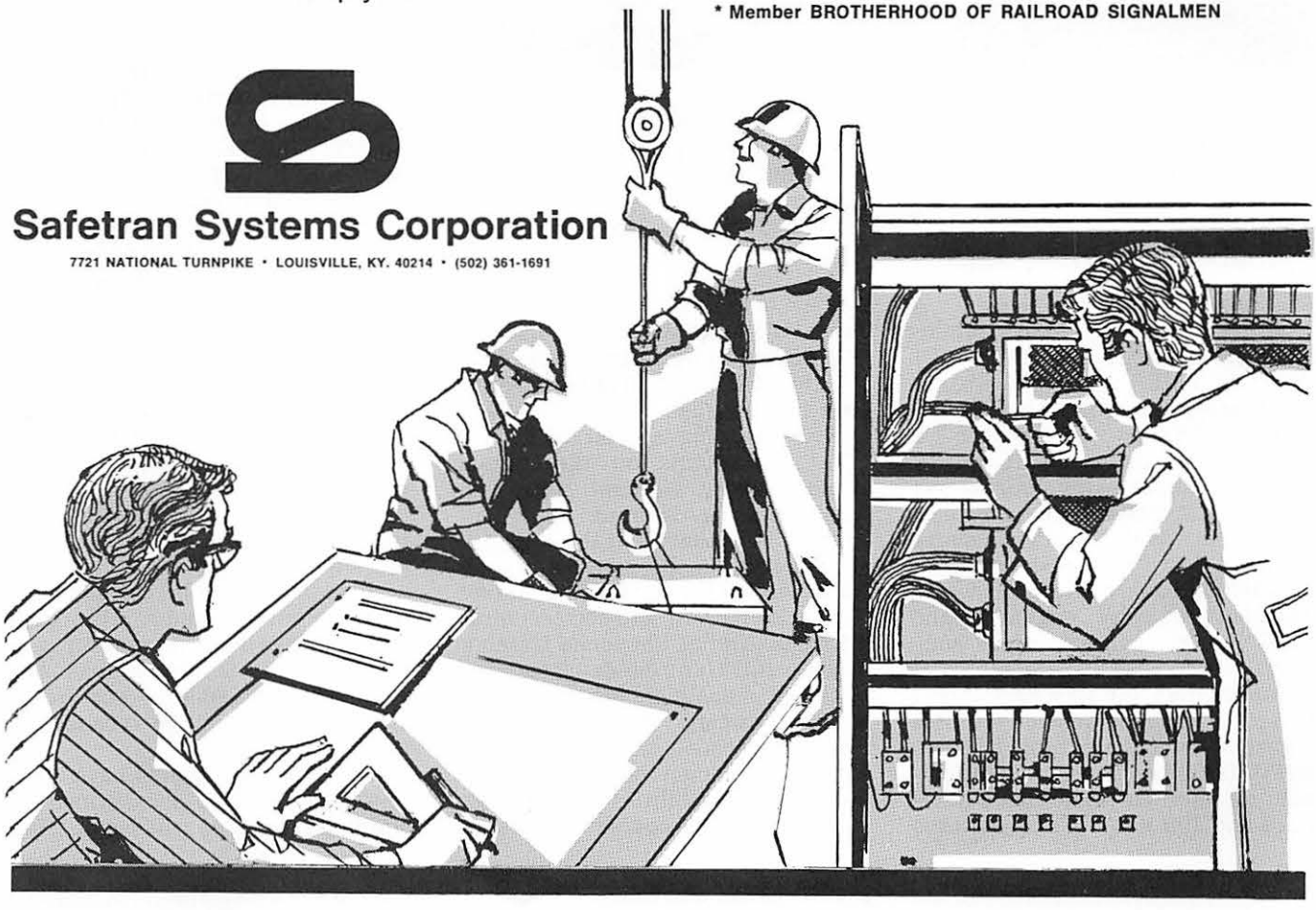
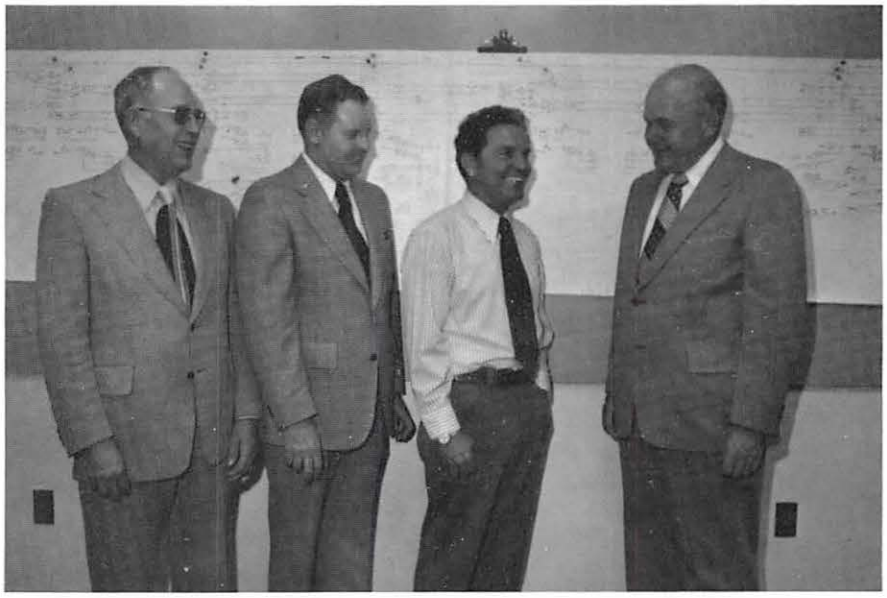


THE SIGNALMAN'S JOURNAL

# Signal training program in full swing on UP



BofRS men discuss signal training in front of circuit plans on wall of Cheyenne classroom. Left to right, are: **H. W. Parsons,** general chairman for BofRS on UP; **John T. Bass,** BofRS vice-president; **Bill Gunn,** UP signal training supervisor; and **Charles J. Chamberlain,** BofRS president.

Union Pacific's signal training program is in full operation. On May 15, BofRS President Charles J. Chamberlain, along with John T. Bass, BofRS vice-president, the UP general committee of the BofRS, and The Signalman's Journal visited UP's signal training school at Cheyenne, WY. Hosts included Glen L. Farr, vice-president labor relations, Leonard Ring, personnel assistant to chief engineer, and Emil Krause, general signal engineer.

Information for this part 1 of a two-part series of articles on UP's signal training program is from INFO. Our thanks to Lowell L. Turner, director employe communications and Jim Beck, editor. Pictures were taken by William B. Bayless, UP photographer. The second part of this UP signal training series will be published in next month.

The following is from INFO:

At two points on the system Union Pacific assistant signalmen are receiving training that will benefit both them and the railroad.

In Pocatello, ID, veteran signalman Lee Parker heads the training for the northwest and south central districts. And at Cheyenne training center, Bill Gunn holds classes for assistant signalmen headquartered on the eastern district. In both cases, the schools will leave the assistant signalmen better equipped for the responsibilities of their jobs.

The complete course consists of four 2-week sessions of progressively more complex study, and sessions are held simultaneously in the two centers at six month intervals.

The classes, generally limited to six students each, are a spin-off of the increasingly more complicated signal equipment that is seeing use on the railroad.

"Over the years," Bill Gunn said, "everything has become more complicated and that has created a need for training. The kinds of signal circuits with which they must deal are a good example."

Signalman training got under way in July 1973, when a pilot class was held in Pocatello. In the months leading up to January 1974, 125 assistant signalmen completed the first of four phases of the program. Those same students are now returning for the second phase (as of March 1974). Each phase is programmed to add depth to the signalman's understanding of his work, and each is based on the study in the preceding phase.

Phase one is basic. It consists of lecture and study of elementary electrical theory and a minimum of laboratory work with series and parallel circuits.

With phase two, the students move into a complete lab facility, where it is a study in practical application of everything they have learned in classroom and on the job. In Cheyenne, students under the supervision of Gunn, learn to wire switch controls, crossing signals and relay circuits. Also, they have to make them work properly. Also they are taught to read and understand blueprints and schematic drawings in the second session.

When all the students have completed the first two phases, instruction in phase three will begin. This

phase promises students training in ctc and all aspects of switch maintenance and operation.

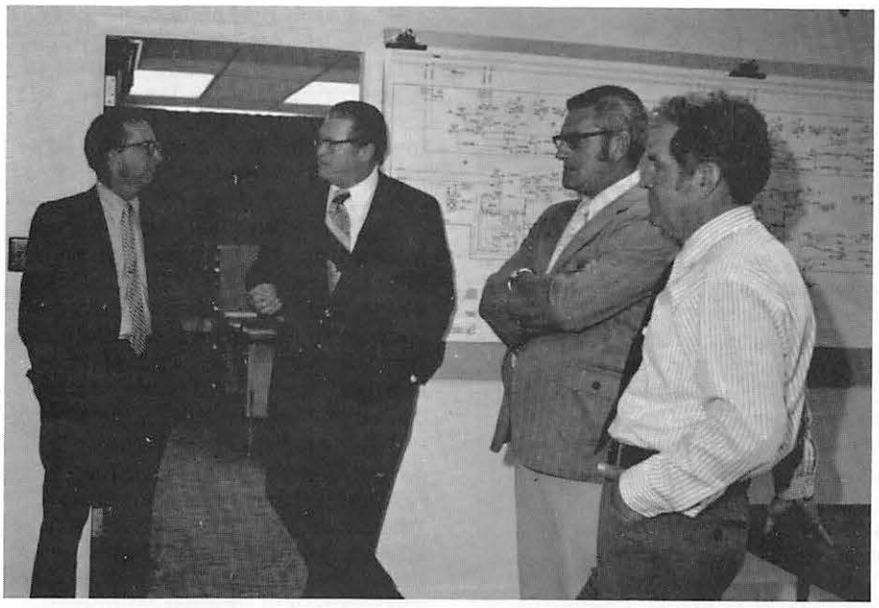
Study in carrier circuits and hotbox detectors will be covered in the fourth and final phase of study. This instruction will be accompanied by a review of all material covered during the duration of the course.

The signalman training classes are a new substitute for the time-tested method of training. Before the classes began, an assistant signalman became a signalman after serving a training term during which time he learned the craft. When experience had taught him all he needed to know, he became a signalman. Now the new classes give the students a blend of study and experience as they divide their time between classroom and the world of work.

Bill Gunn draws on 25 years of signal experience as he conducts his classes. His service as a signal maintainer on the Kansas division for 15 years, then as an inspector out of Denver for two more years, and finally as assistant signal supervisor are paying dividends in the classroom. Lee Parker has had about 30 years experience, also from maintainer to assistant supervisor.

Periods between classes are used by instructors to maintaining training equipment, modifying the program for future classes and for keeping up with new developments in equipment and training methods.

UP hosts and BofRS officers visited at Cheyenne signal training school. Left to right are: **H. W. Parsons,** BofRS general chairman; **John T. Bass,** BofRS vice-president; **Glen L. Farr,** UP vice-president labor relations; **Bill Gunn,** UP signal training supervisor; **Charles J. Chamberlain,** BofRS president; **Leonard Ring,** personnel assistant to chief engineer; and **Emil Krause,** UP general signal engineer.



Informal discussions took place at the BofRS visit. Here **Marion Brown** of Local 8 (left) listens to **Emil Krause** as **Leonard M. Priel** of Rock Springs Local 8and **Bill Gunn** also listen.



present formula with the type of retirement program found in other industries. An eight-year "grandfather" provision tied to the old formula will smooth the transition.

road industry. It is not, however, what is meant by the term "dual benefits."

That term applies to the benefits

which an employee can use an anomaly in the law to gain a higher total of benefits than another with the same years of employment is

# Signal meeting has equipment showcase

## Signal suppliers show latest equipment

Below are the major signal manufacturers that are exhibiting equipment at the Communication & Signal Section, AAR annual meeting in

# RS&I

## Roadway Signals and Cab Signals

**Sec. 236.21 Location of roadway signals.**

Each roadway signal hereafter installed shall be located over or to the right of the track it governs.

**Sec. 236.22 Semaphore signal arm; clearance to other objects.**

At least one-half inch clearance shall be provided between semaphore signal arm, and any object that may interfere with its operation.

**Sec. 236.23 Aspects and indications.**

(a) Aspects shall be shown by the position of semaphore blades, color of lights, position of lights, flashing of lights, or any combination thereof. They may be qualified by marker plate, number plate, letter plate, marker light, shape and color of semaphore blades or any combination thereof, subject to the following conditions:

(1) Night aspects of roadway signals, except qualifying appurtenances, shall be shown by lights; day aspects by lights or semaphore arms. A single white light shall not be used.

(2) Reflector lenses or buttons or other devices which depend for visibility upon reflected light from an external source shall not be used in night aspects, except qualifying appurtenances.

(b) The aspects of cab signals shall be shown by lights or by illuminated letters.

(c) Each aspect displayed by a signal shall be identified by a name and shall indicate action to be taken. Only one name and identification shall apply to those aspects indicating the same action to be taken; the same aspect shall not be used with any other name and indication.

(d) The fundamental indications of signal aspects shall conform to the following:

(1) A red light, a series of horizontal lights or a semaphore blade in a horizontal position shall be used to indicate stop.

(2) A yellow light, a lunar light, or a series of lights or a semaphore blade in the upper or lower quadrant at an angle of approximately 45 degrees to the vertical, shall be used to indicate that speed is to be restricted and stop may be required.

(3) A green light, a series of vertical lights, or a semaphore blade in a vertical position in the upper quadrant or 60° or 90° in the lower quadrant shall be used to indicate proceed at authorized speed.

(e) The names, indications and aspects of roadway signals and cab signals shall be defined in Block Signal and Interlocking Rules in effect on each railroad subject to these rules, standards and instructions. Copy of such Block Signal and Interlocking Rules shall be filed with the Federal Railroad Administration within six months after the date of this order and copy of subsequent modifications shall be filed with said FRA within thirty days after such modifications become effective. Such rules and any modifications thereof shall remain in effect until otherwise ordered by the FRA.

**Sec. 236.24 Spacing of roadway signals.**

Each roadway signal shall be located with respect to the next signal or signals in advance which govern train movements in the same direction so that the indication of a signal displaying a restrictive aspect can be complied with by means of a brake application, other than an emergency application, initiated at such signal, either by stopping at the signal where a stop is required, or by a reduction in speed to the rate prescribed by the next signal in advance where reduced speed is required.

**Sec. 236.25 False restrictive position of semaphore signal arm or failure of lamp in light signal.**

If an arm of a semaphore signal assumes a false restrictive position or if a lamp in a light signal fails the signal shall not display a less restrictive aspect than intended.

**To be continued**

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A KARTRAK system may consist of a basic scanner-decoder arrangement, or it can be expanded with additional functions such as multiple locations, programmable data concentration/processing, data enhancement, plus a full selection of software packages and peripheral terminal equipment—all integrated with your data processing systems and procedures.

If you have a problem that needs a solution, we may have just the system for you. Let's get together and go to work on it.

# Retirement bill moves ahead

The House of Representatives Commerce Committee has approved the Railroad Retirement Bill (H.R. 15301). It provides that payment to meet the deficit in the railroad retirement system be provided from the general fund of the Treasury department rather than from the Social Security Trust Fund.

On the Senate side, hearings were scheduled for Sept. 5, 10 and 11 by the subcommittee on railroad retirement of the Labor and Public Welfare Committee.

Readers are urged to write their Congressmen asking for approval of the Railroad Retirement Bills: H.R. 15301 for Representatives and S. 3612 for Senators.

Following is furnished by the Railway Labor Executives' Association and was prepared by the National Railway Labor Conference. Included are examples of how the revised retirement benefits will apply.

The retirement hopes of hundreds of thousands of present and former railroad employees may ride on the fate of a bill recently introduced in the Senate as S. 3612 and in the House of Representatives as H.R. 15301.

The measure is primarily designed to avert the fiscal collapse of the Railroad Retirement Fund—an event that could occur, unless action is taken, in as little as ten years. The bill is also aimed at correcting inequities in the Railroad Retirement System and at providing a simplified and improved benefit formula.

A principal feature of the proposed legislation would be the phase-out of so-called "dual benefits"—under which some retiring railroad employees, who have also worked in other jobs, have become eligible for benefits from both the Railroad Retirement and Social Security systems.

The benefits would be phased out gradually—to protect existing beneficiaries and others already qualified under both systems when the bill takes effect.

The new benefit formula provided in the bill is a blend of the present formula with the type of retirement program found in other industries. An eight-year "grandfather" provision tied to the old formula will smooth the transition.

Among other benefit improvements are full benefits, including supplemental annuities, to employees who retire early—at age 60, with 30 years' service—and full spouse annuities at age 60 to the spouses of such employees. Also benefits accorded to widows and other survivors of railroad employees would be increased.

The measure would make permanent a tax arrangement established in 1973 under which employee contributions to Railroad Retirement are limited to the level of Social Security taxes.

## Dual Benefits and the Financial Interchange

Payments into the Railroad Retirement system and benefits from the system involve participation from both Railroad Retirement and Social Security, through an arrangement called the Financial Interchange.

The Financial Interchange was established by law in 1951, with the object of keeping Social Security in the position it would be in if railroad employment were directly under Social Security.

It is accomplished by a transfer to the Social Security Fund of a part of the payroll taxes which railroad employers and employees pay into the Railroad Retirement Fund. The amount transferred is equal to the amount that would have been received by Social Security if the employee had been covered under Social Security.

In return, Social Security reimburses the Railroad Retirement Fund for a portion of the Railroad Retirement benefit equal to the benefit that would have been given under Social Security. Thus, although the retired railroad employee receives a single check, it includes two components—a Social Security component financed by the Social Security system, with a Railroad Retirement component making up the remainder.

This is the situation that applies for an employee who has spent his entire working career in the railroad industry. It is not, however, what is meant by the term "dual benefits."

That term applies to the benefits received by those railroad employees who have worked part of their careers in a non-railroad industry or who have "moonlighted" in a non-railroad occupation.

Such employees may become eligible for a direct Social Security benefit in addition to the Railroad Retirement benefit which includes a Social Security component. In effect, such employees would receive three benefits—two computed under Social Security rules and one from Railroad Retirement. The "dual benefit," as that term is used, is the Social Security benefit the employee receives directly from Social Security, even though he is also receiving a part of his Railroad Retirement benefits indirectly from Social Security.

Because Social Security benefits are socially weighted to favor lower-paid employees, with short periods of eligible service, the sum of the two Social Security benefits is often substantially greater than would be a single Social Security benefit based on the same years of service with a single industry, and computed on the basis of the employee's entire working career.

By way of illustration, consider how this might work in the case of an employee who has worked in other jobs before entering the railroad industry.

Upon retirement, the Social Security component computed on the basis of his railroad career might be $200 monthly. The Railroad Retirement component might also be $200—for a total Railroad Retirement benefit of $400. The direct Social Security benefit, computed —and socially weighted—on the basis of his earlier non-railroad job or jobs, might be $150. The employee's benefits would thus total $550 monthly.

However, a single Social Security benefit computed on the basis of the employee's entire working career, railroad and non-railroad, might in such a case be only $250 —$100 less than the sum of the Social Security component of Railroad Retirement plus the direct Social Security Benefit.

The inequity of a situation in which an employee can use an anomaly in the law to gain a higher total of benefits than another with the same years of employment is

obvious—and it is equally obvious that the extra payment is costly to someone.

In this case, the extra cost is borne by the Railroad Retirement Fund. This is a major cause of the Fund's threatened financial collapse.

The reason for this is that—although the extra benefit is, in fact, a Social Security benefit—Social Security does not pay dual benefits. Social Security will not expend more in benefits for a single individual than the amount that the individual would be entitled to if his railroad and non-railroad time were computed on a combined basis.

In the example cited, Social Security would reckon that the amount to be expended in benefits should be $250. Since $150 was being paid directly to the individual, Social Security would—through the Financial Interchange — reimburse Railroad Retirement by $100, instead of the $200 which represents the Social Security component of his Railroad Retirement benefit.

The employee, however, would still be entitled to full Railroad Retirement benefits, and the Railroad Retirement Fund would have to make up the difference.

To date, dual benefits have cost the Railroad Retirement Fund some $4 billion. Without dual benefits, it has been asserted, the Fund would not be faced with a "crisis."

## The Elimination of Dual Benefits

The ultimate result of phasing out dual benefits, as the legislation proposes, will be a two-tiered system in which an employee retiring under Railroad Retirement will receive a benefit containing one component based upon railroad service and a Social Security component based upon total employment.

Some retired employees are already receiving dual benefits. Some employees now working in the railroad industry have already established eligibility under both systems. Some employees no longer in the railroad industry established eligibility under both systems before leaving the industry.

For all of these, provision to preserve the benefits already earned has been made in the bill.

## The New Benefit Formula

Although the two-component concept has—because of the Financial Interchange—been a part of Railroad Retirement since 1951, the total benefit has always been treated as a single entity, computed under a formula which takes into account both the employee's career average monthly salary—a figure arrived at by dividing the total amount earned in a railroad career by the number of months which comprised that career—and the number of years he has worked for the railroad industry.

The new formula, however, will be clearly two-tiered. The Social Security component will be the equivalent of the benefit payable under the Social Security Act based on combined railroad and non-railroad service. This will give every railroad employee who has worked outside the railroad industry full credit, and a full benefit computed under Social Security rules, for whatever portion of his working career was outside the railroad industry. The portion of his total benefit attributable to his non-railroad service will be computed exactly the same as the portion of a non-railroad employee's benefit which is attributable to his work for another non-railroad employer.

**Ask your Congressmen to vote for Railroad Retirement Bills**

The Railroad Retirement component will be a "staff" benefit over and above the Social Security benefit and will be generally comparable to the private retirement plans that companies in other industries have adopted. The "staff" component will give appropriate weight to both an employee's career railroad earnings and to his years of railroad service. For service prior to the effective date, the "staff" component will be calculated under the present law with an addition of up to $1.50 a month for each year of prior service.

In addition, a "grandfather" clause will assure that, apart from dual benefits, the annuities and other benefits for persons retiring during the next eight years will not be less than if calculated under present law.

Future increases in the level of Social Security benefits and the automatic adjustments for increases in cost-of-living now provided would be passed along dollar-for-dollar in the Social Security component.

The "staff" component would also contain provisions for benefit increases based on increases in the cost of living.

## Benefit Changes

A major change in benefits removes a deterrent to early retirement. Under present law, an employee may retire with his full basic benefit at age 60, providing the employee has 30 years of railroad service. However, the employee may not receive the supplemental benefit until he reaches age 65. Nor may his spouse receive a full spouse benefit until both the employee and the spouse are 65.

The proposed legislation would make him eligible for the supplemental benefits at age 60, assuming he had 30 years' service. And if he is age 60 and retired, with 30 years of service, his spouse may receive the full spouse benefit at age 60.

Another change would increase the minimum guaranteed benefits paid to widows and other survivors of railroad employees from 110 percent to 130 percent of comparable Social Security benefits.

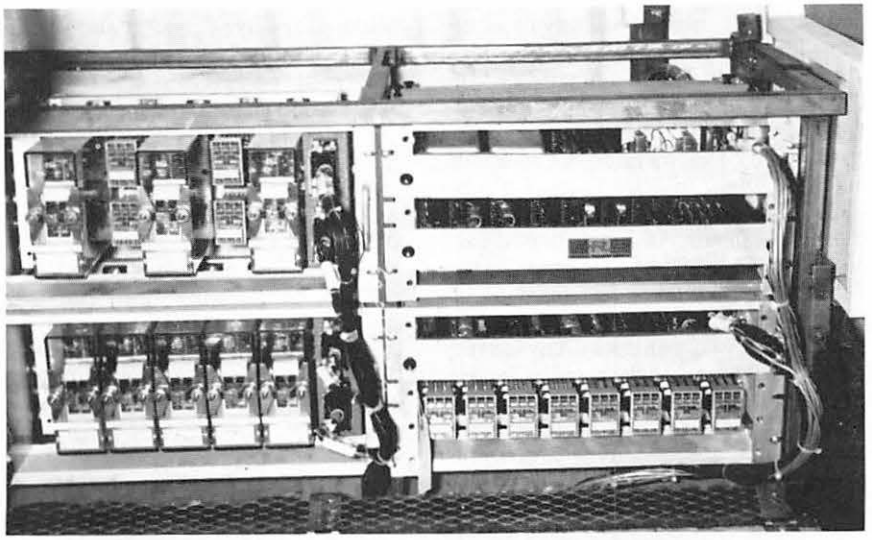
## The Legislative Road Ahead

The retirement proposal faces hearings before the Labor Committee in the Senate and the Interstate and Foreign Commerce Committee in the House.

The parties recognize the threat to the solvency of the Railroad Retirement Fund—and thus to all employees—posed by the cost of dual benefits. Moreover, dual benefits received by the minority are perceived as unfair to the majority of career railroad employees who do not qualify for them.

If enacted, the bill will restore fiscal solvency to the Railroad Retirement System and will eliminate the inequities.

The end result—assuming all provisions are enacted—is an improved, financially stable system which for the next several years does not require an increase in payroll taxes and therefore does not require a "pass-through" of increased costs to railroad customers.



Automation equipment is mounted under luggage racks on Airtrans cars.

# Automation controls

Airtrans vehicles are provided with brushes which contact rails along the guideway to furnish power to vehicles and a transmission path for controls.

# airport transit

General Railway Signal Co. furnished, to the Ground Transportation Division of LTV Aerospace Corp., the automatic vehicle control system for Airtrans, the intra-airport personal rapid transit system. Operating automatically on 13 miles of concrete guideway, 68 Airtrans vehicles provide swift, safe, and comfortable service for airport users and their baggage. Special utility cars also handle supplies in the vast complex of buildings and facilities.

The GRS automation system controls all vital functions associated with vehicle movement, route switch positioning, door operation, plus nonvital functions involved in automatic vehicle operation, routing, station stopping, performance monitoring, supervisory control, and communications.

This is the first transit system anywhere that operates as an automated network, controlling all movements, routings, speeds, separations, and reporting functions on a large number (68) of vehicles simultaneously. The automatic vehicle control system which makes this possible was developed and furnished by GRS. The overall system has three major subsystems: Automatic Vehicle Protection (AVP), Automated Vehicle Operation (AVO), and Automatic Vehicle Supervision (AVS). The Automatic Vehicle Protection subsystem performs the vital safety functions required for vehicle rear end protection and interlocking protection. The Automatic Vehicle Operation subsystem regulates speed and station stopping for efficient system operation. The Automatic Vehicle Supervision subsystem performs routing control, performance monitoring, and communications functions associated with general system supervision.

## AUTOMATIC VEHICLE PROTECTION

GRS, who has been furnishing transit control systems since 1904, employs proven transit signaling principles in the design of the AVP subsystem. The Airtrans vehicle follows the concrete guideways, which consists of numerous blocks, each of which contains a vehicle detection circuit. Three power rails, one signal rail, and one return rail are fastened to the concrete sidewalls. This circuit uses the signal and return rails within each block to form a conventional

d-c track circuit. Low impedance shunts on the vehicles cause the track circuit current to drop when a block is entered, and the block relay releases to indicate occupancy. The vehicle presence detection block provides an output to the speed selection logic and switch interlocking control. The speed selection logic also receives an input from the interlocking control.

Guideway switches—merge and diverge types—are checked by the AVP subsystem to prevent any unsafe moves. The diverge switch contains a divert gate which is positioned and locked by a GRS model 55G electric switch machine. Before a vehicle moves through a diverge switch, the divert gate is positioned and locked, and its position detected for correspondence with the switch.

Unless the divert gate is so positioned and locked, clearing of the route through the switch is not permitted. When the route is not clear, the signals on the approach to the switch are set as if the block located at the switch were occupied. This prevents an approaching vehicle from moving closer than one block of the switch block.

The section of guideway devoted to a switch, from the tip of the divert gate to the clearance point, is the switch block. Train detection in a switch block is achieved similarly to other blocks. Interlocking of signals and switches inhibits train movement through a switch which is not locked and prevents a switch previously occupied or assigned to a cleared route from becoming unlocked.

The merge switch also has a divert gate. This gate is normally spring loaded to the "through" position and guides, but does not obstruct, the passage of vehicles. For reverse moves, the gate is manually positioned and pinned. The status of the pin is detected by contacts which prevent automatic operation of vehicles over the switch if it is not free to move.

Although merge switches require no actuation for normal movements, the switch must nevertheless be detected as unpinned and assigned to one of the two approaches before a route from that approach through the switch may be cleared. When the approach to an assigned route is occupied, the route is considered fixed until the train passes through the switch.

The block relays report to a wayside logic unit, which checks the condition of blocks in advance of the vehicles to establish safe operating speeds. The positions of guideway switches in advance of vehicle movements are also checked by the wayside logic. Four or more clear blocks permit a vehicle to proceed at maximum permissible speed. At least two clear blocks are needed to permit any vehicle movement. At least one clear block is always maintained between any two vehicles. Any entry into this clear block results in an irrevocable emergency stop. For normal system operation, emergency stops are avoided by a stop command given in the second block behind any occupied block.

Airtrans vehicles can operate at speeds up to 17 mph. Speed commands are derived by the wayside equipment and are transmitted over the signal and return rails to the vehicle. GRS wayside transmitters generate frequency shift coded speed limit and command signals. Two transmitter are continuously coded with the rate code needed to energize vital relays on the vehicle and convey speed limits. An additional two transmitters send nonvital speed commands to accommodate Automatic Vehicle Operation performance.

GRS track circuit receivers monitor the commands onboard the vehicle. Relays associated with vital functions check received commands for proper frequency and coding and are energized only when both are present. This fail-safe principle produces an emergency stop if a circuit failure occurs.

A fail-safe overspeed governor allows the vehicle to proceed when speed is below the authorized speed limit and no equipment failure has occurred. Emergency braking is invoked if the vehicle exceeds the speed limit or if any circuit in the governor or speed detector fails.

The door control circuits of Airtrans vehicles interface with propulsion and braking equipment and a speed sensor to ensure that no door is commanded to be opened while the vehicle is in motion. Vehicle and station doors are vitally controlled to ensure that a vehicle is properly positioned before either set of doors is opened.

The trainline between vehicles is continually monitored by the AVP subsystem to check that the train has not separated. If vehicles of the train do separate, the rear (B) vehicle receives emergency braking by a mechanical brake, while the front receives a service brake application. A difference in braking rates prevents the two vehicles from reuniting.

## AUTOMATIC VEHICLE OPERATION

The AVO subsystem performs speed regulation and programmed station stopping. It interfaces with the vehicle's propulsion and braking systems to control speed in response to the speed limit commands established by the AVP subsystem.

A speed regulator monitors the vehicle speeds to maintain maximum performance within a range conducive to passenger comfort—speeds which are low enough to prevent emergency braking, yet high enough to afford efficient operation. Speed commands are applied to the speed regulator and compared with the actual speed to produce the propulsion or braking required for maintaining the commanded speed.

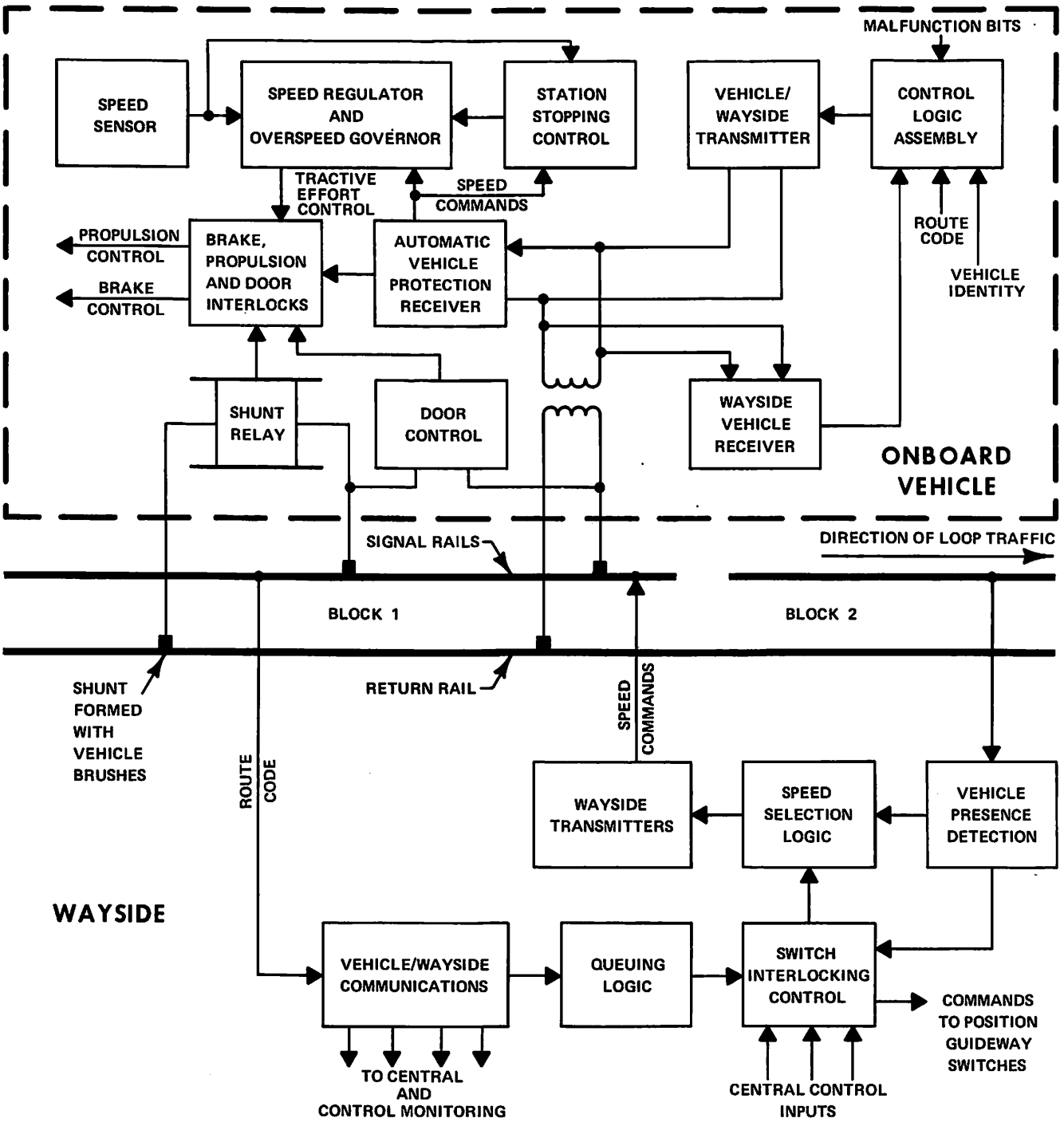
The programmed stop equipment, triggered from the wayside, brings the vehicle to a smooth stop at the proper position at the station platform. Stopping profiles are generated by a digital logic unit, which produces an output proportional to the distance to the stopping point.

## AUTOMATIC VEHICLE SUPERVISION

The Automatic Vehicle Supervision, a digital data link, is used for routing, performance monitoring, and line supervision from central control. Specific wayside locations contain wayside-to-vehicle communications equipment and queuing modules for routing control. Each vehicle contains vehicle-to-wayside communications equipment and a programable controller for handling train identification information and routing data.

Normally, the wayside locations operate as master units, and the vehicles are slave units. A transmission from the wayside must be received by a vehicle before the vehicle can transmit in response.

A wayside-to-wayside transmission occurs every 0.2 second. It contains vehicle identification and a request for a status report. It can also contain a route change request or some other nonvital command.




**Simplified block diagram of the Dallas/Ft. Worth Airtrans system.**

Wayside Automatic Vehicle Supervision transmissions only affect the vehicle whose identification agrees with that of the transmission, although other vehicles are within the wayside area of control. When a vehicle is addressed, a message containing identification, route information, malfunction status, and berth bits is transmitted to the wayside. This data is given to the computer complex for performance monitoring calculations.

Route information is stored in the wayside queuing modules on a first-in first-out basis and is used to automatically select the route for each vehicle as the interlockings are approached. Any preselected route may be altered by the central operator, provided a vehicle is outside the approach block to a switch. The central operator can alter station hold times or vehicle priorities to regulate scheduling and vehicle movements. He can also lower the speed limits for individual cars or sections of guideway to optimize system performance.

All vehicle-carried receivers time the wayside transmissions. If the wayside transmitter fails, the vehicle timers run out, and asynchronous transmission occurs from each vehicle. This permits wayside storage of route information and station data and enables the system to maintain route control and station communications. The wayside storage of route information continues to operate in the event of computer failure to keep Airtrans running until the computers are back in service.

## Roadway Signals and Cab Signals

**Sec. 236.21 Location of roadway signals.**

Each roadway signal hereafter installed shall be located over or to the right of the track it governs.

**Sec. 236.22 Semaphore signal arm; clearance to other objects.**

At least one-half inch clearance shall be provided between semaphore signal arm, and any object that may interfere with its operation.

**Sec. 236.23 Aspects and indications.**

(a) Aspects shall be shown by the position of semaphore blades, color of lights, position of lights, flashing of lights, or any combination thereof. They may be qualified by marker plate, number plate, letter plate, marker light, shape and color of semaphore blades or any combination thereof, subject to the following conditions:

(1) Night aspects of roadway signals, except qualifying appurtenances, shall be shown by lights; day aspects by lights or semaphore arms. A single white light shall not be used.

(2) Reflector lenses or buttons or other devices which depend for visibility upon reflected light from an external source shall not be used in night aspects, except qualifying appurtenances.

(b) The aspects of cab signals shall be shown by lights or by illuminated letters.

(c) Each aspect displayed by a signal shall be identified by a name and shall indicate action to be taken. Only one name and identification shall apply to those aspects indicating the same action to be taken; the same aspect shall not be used with any other name and indication.

(d) The fundamental indications of signal aspects shall conform to the following:

(1) A red light, a series of horizontal lights or a semaphore blade in a horizontal position shall be used to indicate stop.

(2) A yellow light, a lunar light, or a series of lights or a semaphore blade in the upper or lower quadrant at an angle of approximately 45 degrees to the vertical, shall be used to indicate that speed is to be restricted and stop may be required.

(3) A green light, a series of vertical lights, or a semaphore blade in a vertical position in the upper quadrant or 60° or 90° in the lower quadrant shall be used to indicate proceed at authorized speed.

(e) The names, indications and aspects of roadway signals and cab signals shall be defined in Block Signal and Interlocking Rules in effect on each railroad subject to these rules, standards and instructions. Copy of such Block Signal and Interlocking Rules shall be filed with the Federal Railroad Administration within six months after the date of this order and copy of subsequent modifications shall be filed with said FRA within thirty days after such modifications become effective. Such rules and any modifications thereof shall remain in effect until otherwise ordered by the FRA.

**Sec. 236.24 Spacing of roadway signals.**

Each roadway signal shall be located with respect to the next signal or signals in advance which govern train movements in the same direction so that the indication of a signal displaying a restrictive aspect can be complied with by means of a brake application, other than an emergency application, initiated at such signal, either by stopping at the signal where a stop is required, or by a reduction in speed to the rate prescribed by the next signal in advance where reduced speed is required.

**Sec. 236.25 False restrictive position of semaphore signal arm or failure of lamp in light signal.**

If an arm of a semaphore signal assumes a false restrictive position or if a lamp in a light signal fails the signal shall not display a less restrictive aspect than intended.

**To be continued**

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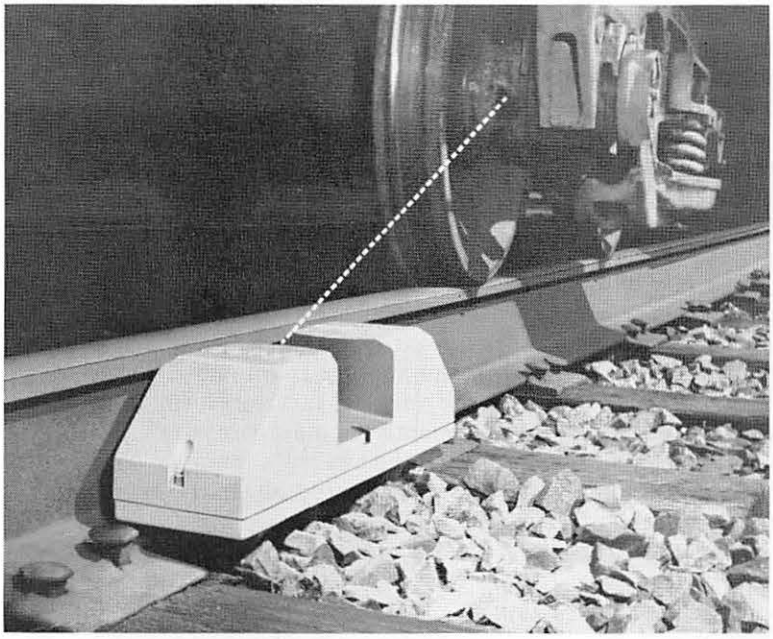

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MEMBER RPI

# Personal Aids and News

## Social Security benefits may apply to railroad men says R. T. Bates

About 40% of all railroad retirement beneficiaries now paid annuities under the Railroad Retirement Act are receiving, or are entitled to receive, social security benefits. The following questions and answers explain the effects of social security entitlement on the railroad retirement annuities of retired employees, their spouses and survivors. Also included are questions frequently asked about the effect on benefits of military service credits.

*(1) What adjustment is made in the amount of a retired employee's annuity when he is also eligible for social security benefits?*

Under the regular formula used to compute the annuities of most railroad retirees, the general increases provided in 1966 (7%), 1968 (average about 10%) and 1970 (15%) are each subject to offset for the comparable increases the retiree receives in his social security benefit. At present, the railroad annuity may be reduced by an average of about 19% of the social security benefit.

*(2) Were the 1971 10% increases, the 1972 20% increases and the 1974 "pass-through" increases in railroad retirement annuities also subject to adjustment for social security benefits?*

No. These increases are not subject to any such offsets. The full amounts of these increases are paid under both programs.

*(3) Is a wife's annuity affected by eligibility for social security benefits?*

Yes. A wife's railroad annuity will be affected by a social security benefit paid to her either as a wife or on the basis of her own earnings. The offset in a wife's annuity is similar to the offset in an employee annuity.

*(4) What effect does eligibility for a social security benefit have on retirement annuities paid under the overall minimum guaranty provision?*

This guaranty provision ensures that the total of monthly benefits paid to the retired employee's family under the Railroad Retirement Act will not be less than 110% of the amount they would have received from the social security system on the basis of combined railroad-social security earnings. Under this special guaranty, any actual social security benefits such individuals are entitled to are subtracted from the guaranty amount. Therefore, if the employee or his wife become entitled to social security benefits, their annuities will generally be larger under the regular railroad formula.

*(5) Does eligibility for social security benefits have any effect on the amount of a supplemental annuity?*

No. The amount of a supplemental annuity is not affected by a social security benefit. However, it is subject to reduction if the annuitant also receives a private pension financed wholly or partly by his former employer.

*(6) How is a widow's annuity adjusted for social security benefits?*

The provisions for widows' annuities are generally similar to those for employee annuities. That is, the full social security benefit is deducted when the annuity is computed under the special-guaranty provision, while only a part of the social security benefit is deducted when the annuity is computed under the regular survivor formula. Consequently, in most cases of dual benefits, the widow's annuity is larger when figured under the regular formula.

*(7) What are the work restrictions for retired railroad annuitants?*

For nondisabled employees and their wives paid under the regular railroad formula, regular annuities are not payable for any months they work for a railroad or for the

### Regional meeting to be held in New York City on Saturday October 5, 1974.

Members residing in Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Maryland, and Delaware should be especially interested in attending this meeting.

President Charles J. Chamberlain, Secretary-Treasurer R. Thomas Bates and other Grand Lodge officers who are available will be present. Representatives from Travelers Insurance Co., Provident Insurance Co. and the Railroad Retirement Board will be present to discuss their respective programs for BofRS members.

The meeting will begin at 9 a.m. and be held at the Prince George Hotel at 28th Street and Madison Avenue in New York City.

last nonrailroad company they worked for before they retired. The amount they earn from any company other than a railroad or last nonrailroad company has no effect on their benefits. The restrictions on an employee supplemental annuity are the same, but in addition, an employee forfeits his supplemental annuity if he works in any employment covered by the Railroad Retirement Act after his closing date (generally the last day of the month following the month in which he attains age 65).

Employees paid railroad retirement disability annuities are subject to special rules.

*(8) What are the restrictions for their survivors? How do they relate to those for social security beneficiaries?*

All nondisabled survivors and those retired annuitants and their wives paid under the special-guaranty provision generally have the same earnings restrictions as social security beneficiaries, plus the added restriction that they cannot be paid for any month in which they have railroad service. If they earn more than $2,400 in 1974, they will lose $1 in benefits for each $2 earned in excess of that amount, but no deductions are made for any month in which earnings are $200 or less. These restrictions do not apply to survivors over age 72.

*(9) How does the award of social security benefits affect the payments of railroad unemployment or sickness benefits?*

The unemployment or sickness benefits paid by the U.S. Railroad Retirement Board are payable only to the extent that they exceed the amount of social security and/or regular railroad retirement benefits payable for the same days. In many cases, some unemployment or sickness benefits still remain payable.

*(10) Does the award of benefits from the Veterans Administration or a military retirement pension affect the amount of a railroad retirement employee annuity?*

Only if the same periods of military service are used as a basis for the Veterans benefits or military pension (see answer to question "11"). However, military retirement pay reduces the amount of unemployment or sickness benefits in all cases, even though Veterans benefits do not.

*(11) How is the adjustment for Veterans Administration (VA) benefits made in the amount of a railroad retirement employee annuity?*

If the retired employee is paid under the regular railroad formula, and is receiving a VA benefit, his railroad retirement annuity would be computed two ways. First, it is computed without military service, and second, it is computed using military service, but the annuity is reduced by the percentage that his railroad retirement annuity is increased by the use of military service. However, the reduction for military service can never bring the railroad annuity below what it would normally be without the use of such military service. VA benefits or a military pension would have no effect at all if the annuity were computed under the special-guaranty provision of the Railroad Retirement Act.

# Beef grade change could help buyers

## By Sidney Margolius

The U.S. Department of Agriculture could help consumers and in fact the entire nation by changing its present method of grading beef as it is now considering doing.

The present top grades, called U.S. Prime and Choice, put a premium on the amount of fat streaks called marbling. The fat makes the meat juicy and also to some extent more tender, especially when cooked rare.

But the practice of awarding a higher grade to meat with a thicker covering of fat and marbling throughout the lean, encourages additional feeding of cattle. The extra feeding starts a chain of events which much of the public no longer wants or can afford.

The additional feed used to fatten cattle intensifies the present grain shortage, and raises the price of beef to you. Too, while this costlier fat beef may be juicier, it also is higher in calories and cholesterol, if that is a problem. Choice grade beef is actually 25% fat.

**Ironically, "Choice" beef does not even have as high-quality nutrition as does the cheaper "Good" grade. Thus, "Good" beef, which often costs 5 to 10 cents a pound less when you can find it, has 6% more protein, and more iron and B vitamins than Choice beef.**

These are expensive nutrients, and iron, especially, is often in short supply in the diets of women and young people. (The Prime grade is even fattier than Choice, but is sold mostly to expensive restaurants.)

The present practice of grain-feeding livestock to get them into the Choice and Prime grades adds to pollution problems. Over 25 million cattle are finish-fed each year on concentrated feedlots, says A.

*(Please turn page)*


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## PA & N CONT'D

F. Bartsch, director of the National Environmental Research Center in Oregon. Each cow or steer generates as much sewage as 10 to 16 humans, with resultant heavy pollution of streams in many western states.

One argument against revising present grades is that feed-lot operators will be affected financially. Some already are in trouble because the public has reduced meat use (by about 7% since 1972) because of recent high prices.

Some of the investors in cattle feeding are, however, well-to-do people looking for the special tax loopholes the government grants to agricultural businesses. Actual working farmers may need assistance to adjust to a grading system which awards a premium to leanness rather than fat.

Some USDA officials and retailers have expressed concern that housewives' buying habits may need to change if beef grades are changed. Presently, they argue when a shopper sees Choice beef she knows how it will cook, how it will taste and whether or not it fits her needs.

There is some evidence, however that should encourage these officials to stop worrying, and go ahead with the current suggestions to revise the grades. Usually when asked to identify different grades consumers picked the Good or even Standard as the higher grades. Apparently the leaner lower grades looked better to the people being questioned.

Even in taste tests conducted by the USDA itself, consumers usually could not distinguish between the grades, although they might have if the meat was cooked rare, the testers believed.

About 60% of beef sold at retail nowadays is Choice grade. You may not always be able to find Good or Standard grade in stores. Sometimes stores do sell the lower grades under such names as "Budget" or "Economy" beef. In a few areas such as Chicago and Dade County, Florida, where stores are required by law to show the official retail grades, beef is available in some stores under the Good or Standard names. Where available, such grades find good consumer acceptance.

**Even if the lower grades cost just a little less, they're better value for many cooking purposes.**

# Washington Report

### By R. E. Porter

A surge of hope for better rail service and more rail jobs followed the Interstate Commerce Commission's June order approving a 10% increase in railroad freight rates. Though the 10% figure is not being uniformly applied, the boost is estimated to yield about $1.5 billion a year.

Of special significance to railroaders was the ICC's insistence that all of the new revenues be devoted to "capital improvements and deferred maintenance of plant and equipment" and to increased material and supply costs. The aim, said the ICC, is to reverse the long decline in rail maintenance and in service to shippers, including "slow orders, car shortages, derailments and shortages of locomotives."

Both the new freight revenues—if applied as the ICC ordered—and the requirement to buy and repair additional cars should lead directly to more rail jobs, especially in the maintenance of way and shopcraft categories. Beyond that, a payoff is also seen in safety and in attracting more business to the rails by enabling better service. Those things, too, would be beneficial to the employes. For these reasons, leaders of rail unions had urged the ICC to approve the carriers' rate increase request.

According to the latest available Interstate Commerce Commission statistics, jobs on Class I railroads hit 535,989 in May, 1974, a jump of 10,898 or 2.06% from May 1973. This was the eighth successive month in which the rail jobs exceeded the level of a year ago, and the increase in May was the largest monthly rise in some years.

**On the safety front, rail unions have taken to the Senate a fight to secure sufficient appropriations for effective rail safety enforcement.** They urged Senate committees to speed action on a bill (HR 15223), already approved by the House which would provide $35 million in appropriations for the current fiscal year to finance implementation of the Rail Safety Act of 1970.

The bill would almost double the number of federal inspectors under the act to 350 and also authorize $3.5 million in federal matching grants to states as they can assist in enforcement of rail safety laws and regulations. Favorable Senate action on the measure seems likely, particularly in view of mounting congressional concern over the rising toll of derailments and other accidents on the railroads.

**On the collective bargaining front,** rail unions are pressing for wage increases of 35% over a two-year period, beginning next January 1, and an escalator clause providing for cost of living adjustments. Most of the unions are also seeking numerous improvements in "fringe" benefits, including stronger job security.

In addition, all of the unions have served uniform notices for improvements in health-welfare benefits for railroad employes and their dependents. These would include dental and eye care coverage, increased life insurance, and numerous other changes.

Intensive negotiations on these demands are slated between now and year's end.

The Interstate Commerce Commission has served notice on the railroads that it intended to issue rules requiring "immediate" action to bring trackage used for intercity rail passenger service "up to the level which existed on May 1, 1971," when the Amtrak takeover of passenger trains began.

Further, the ICC said the railroads will be required, over the longer pull, to upgrade trackage further so that "in the future, track and roadbed will be available to sustain trains traveling at speeds in excess of 110 miles per hour" in passenger service.

**The turnaround in rail employment is continuing,** figures released by the Interstate Commerce Com-

mission show. In June, the ICC said, employment on Class I railroads totalled 541,811, up 5,222 or 0.97% from May, and up 11,560, or 2.18% from June 1973. This was the ninth month in a row that rail employment has exceeded the level of a year ago. With short lines, switching roads, terminal companies and other rail-related facilities included, aggregate rail employment was estimated at about 600,000 in June.

# General Committee News

## Santa Fe news by R. R. Van Vacter

An ice storm hit the midwest, severely damaging signal and communications systems on the Middle Division. Lines heavily weighted by the clinging ice fell, cutting circuits over a large portion of the Middle Division. Signal crews worked around the clock to restore circuits and put the signal system back into operation.

On December 12th, **R. L. Thomas,** General Superintendent of Communications and Signals, called and requested the right to use Signalmen and Signal Helpers to assist the Communications Department in restoring their lines. Our goals, under such conditions, are to help in every way possible to restore normal service. A letter from **J. R. Jones,** Vice President-Personnel, dated December 14th, expressed the appreciation of the Company for the cooperation of the Organization in this matter.

Special commendation should go out to Brothers **J. E. Gamblain, Steve Ames, A. J. Zimmerman, R. D. Winter, D. A. Lockwood** and **T. K. Bullard** for their part in working with the Communication Department to restore communications lines. The hazards involved working under such conditions greatly concerns both the Company and the Organization. In addition to the above named Brothers, all those Signalmen involved in the round-the-clock work to restore service curtailed by the ice storm are also to be commended.

The Brotherhood of Railroad Signalmen has worked closely with the Company in helping them supply the men they needed to complete the 185 mile TCS installation between Temple, Texas and Houston.

Local Chairmen, **D. E. Johns** and **L. M. Petty** were both instrumental in negotiating agreements with Management to send Point Gangs from the Plains and Northern Divisions to the Southern Division to work on the TCS project. The employees of the two gangs are working on what we call the ten days on and four days off concept. The Plains Division gang employees are being paid thirty-two hours pro rata pay for making round trips to their home stations and return on their four day weekends. The Northern Division gang employees are paid sixteen hours pro rata pay. The weekend pay represents travel time pay and travel allowance required under the Agreement.

The men assigned to these gangs are to be commended for their special service to the Company. Those ten day working periods begin to get tedious after the sixth day. By the time you receive this report, the project should be completed.

Brothers Johns and Petty put a lot of work into negotiating these Agreements. They performed a valuable and necessary service for our Brotherhood. The Organization thanks them very much for doing a fine job.

**I want to emphasize the necessity of the individual member checking with his representative when and if he is offered demerits by a Company officer for an alleged rule violation.** Since being elected as a Brotherhood representative in 1960, I've seen some injustices inflicted upon employees which are unbelievable. Many employees are led to believe that they are the one and only responsible person involved in some incident and, therefore, liable and deserving of discipline.

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The wheelspan of the Roman chariots was exactly equal to standard gauge of railroad tracks—4 ft. 8½ in.

## National Agreement Book

We are preparing a book that will contain the basic provisions of national agreements negotiated with a majority of the U.S. railroads on which the BofRS has collective bargaining agreements. It will be a loose-leaf binder with space for the schedule agreement on an individual railroad. Certain sections must be amended to reflect if, and to what extent, a certain agreement or portion thereof has been accepted or amended on an individual railroad. Such additions or amendments will be the responsibility of the purchaser.

The book, consisting of about 350 pages, will include summary of wages and other benefits; Washington Job Protection Agreement; Eastern Carriers Union Shop Agreement of 8/29/52; vacation agreement and interpretations; paid holiday rules; claim and grievance handling rule; force reductions; 2/7/65 Agreement and official interpretations thereto; Award of Arbitration Board 298 and interpretations thereto; off-track vehicle accidents; jury duty; overtime; camp cars; apprentice programs; change of residence; earnings deduction in discipline cases; supplemental sickness benefits; union dues checkoff; AMTRAK protective conditions; and a brief summary of Travelers benefits.

Copies of the **Master National Agreement Book** are priced at $5.95 if ordered before Jan. 1, 1975; and $7.95 after that date. Orders must be postmarked Dec. 31, 1974 or earlier to receive the discount price. To order, please fill out the coupon below, and mail with check or money order payable to R. T. Bates.

Please send me ..... copies of the **Master National Agreement** book at $5.95 per copy.

Name.....

Title..... Local No.....

Address.....

City.....

State and Zip.....

Send order with payment to **R. T. Bates, Secretary-Treasurer, Brotherhood of Railroad Signalmen, 601 W. Golf Rd., Mt. Prospect, IL 60056**

# Local Lodge News

Local 33 retired members at the May 18 reunion included the following: Standing, left to right—**Baldy Roberts, Sandy Tanner, Shorty Newberry,** and **Bud Botkins.** Seated, left to right—**Reggie Rensimer** and **Tommy Reed.**

## Midwest Local 33 meets in Hutchinson, KS

Chief Signalman **Max E. Craft** called the meeting to order at 9:30 a.m., with local chairmen **Page, Pullium** and **Cleeton** in attendance. It was an informal and casual meeting. At the close of the meeting at 11 a.m., a reunion was held for the retired employees of Local 33. The meeting was at Carey Park in Hutchinson, KS. There were all sorts of recreation facilities which encouraged sunbathing, horse shoes, golf and a zoo to visit. Most members just relaxed and talked while some participated in sports.

Topics of discussion at the meeting included unauthorized personnel performing signal work, new retirement proposals, and shop wiring of instrument cases for the field. Brother Cleeton said that he will retire as soon as he is eligible. Reported on the sick list are **J. Caldweld, G. Zimmerman, W. Bishop** and **R. Horn.**

Wives and children showed up after the meeting for the reunion. Retired members present were Mr. and Mrs. **L. D. (Shorty) Newberry,** Mr. and Mrs. **Sandy Tanner,** Mr. and Mrs. **Reggie Rensimer,** Mr. and Mrs. **H. L. (Bud) Botkins,** and Mr. and Mrs. **Claude (Baldy) Roberts.** Also, Brother **Tommy Reed** was present. He would not tell me how old he was, but he retired in 1949.

It always warms my heart at the brotherhood of Local 33 by the effort of our supervisory personnel to attend these events. Signal supervisor **Jack Collins** and assistant supervisors **Pete Hirsh, J. B. Wallace** and **Glen Sette** were in attendance. Collins and Wallace worked on a big derailment until noon, and then drove over to the reunion to visit with all the brothers.

I have just received a note from retired Brother **Bill Lewis** explaining why he could not attend the meeting. Brother Bill is ill with the commonly known disease, called Lou Gehrig's disease (amyotrophic lateral sclerosis). According to his note, he is not responding to the treatment. Brother Bill expressed his disappointment in not being able to attend the meeting. I know that I speak for all the brothers in wishing him a speedy recovery.

*Max E. Craft*

## Valley City local 123 held special meeting

On Sunday, December 2, 1973, a special meeting of C&O (PM district) local was held at Lansing, MI. The reason for this meeting was to take up the questions of what amount of dues that members should pay each quarter in order to meet the obligations to Grand Lodge, General Committee and Local expense, in order to have a sound Local and to pay all bills that become due. Also discussed was initiation fee that should be charged to those persons wishing to join the Local.

Brother **Vince Stanek,** Financial Secretary, explained what the financial situation of our Local is and just what amount that we would need to meet our obligation: per capita tax we must pay to Grand Lodge for each member; what amount that we need for our General Committee to pay for our full time General Chairman; our Local cost in regards for expenses to send our Vice Chairman to talk with management, in regard to Local matters that would not warrant having our General Chairman to come such a long distance. Other expenses include salary and dues being paid for our officers. We also paid the dues for all of our Local Chairmen and whatever expenses that occur at times for phone calls, stationery and stamps, etc. Above that, our Local must think ahead for a few years in order to build up our treasury so that we will have enough money in the bank when Convention time comes again in order to send delegates to represent us at these conventions. There are other expenses too numerous to mention.

Membership present at this meeting, by a separate secret vote, decided to raise Union dues $8 per quarter and initiation fees to $20. Also at this time it was decided upon to make no change in our By-Laws. Our initiation fees will increase from $10 to $20 for anyone joining our organization. These issues were acted upon by seventeen members present at the meeting.

*John P. Messock*
*Recording Secretary*

***Save Jobs — Conserve National Resources***

# Let's Cut Out The Garbage!

## THERE'S SOLID GOLD IN SOLID WASTE

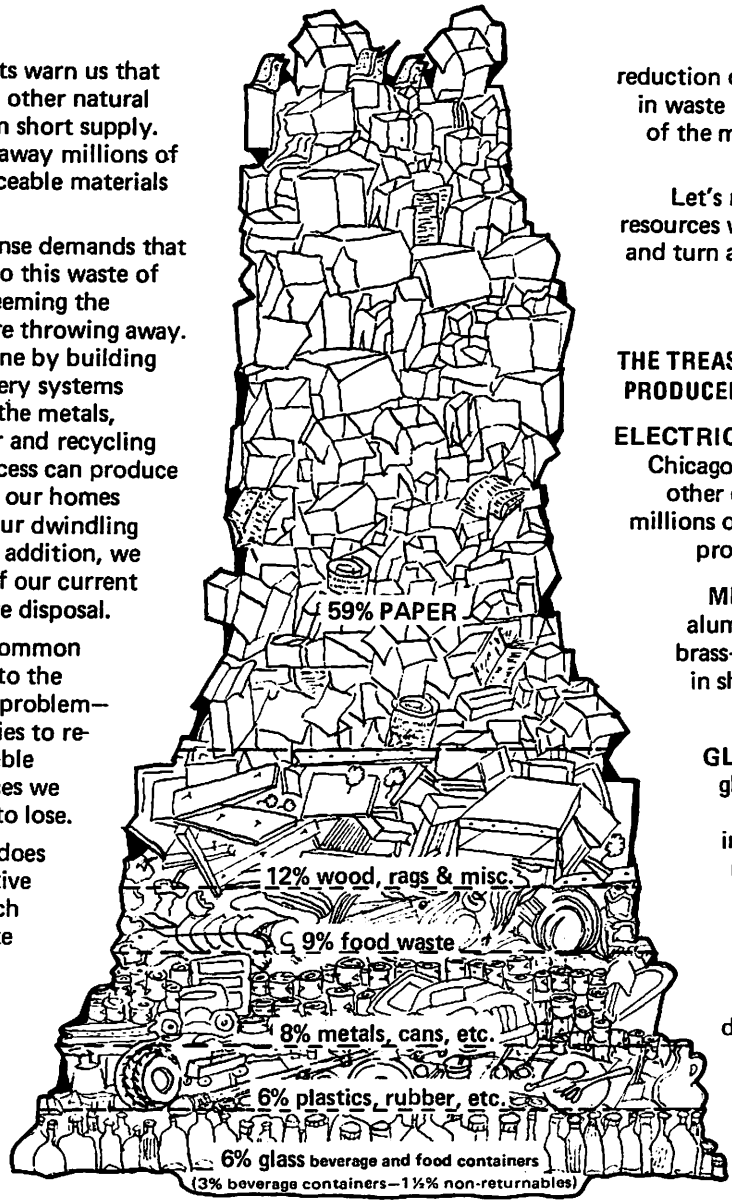
Our scientists warn us that metals, oil and other natural resources are in short supply. Yet we throw away millions of tons of irreplaceable materials each year.

Common sense demands that we call a halt to this waste of wealth by redeeming the treasures we are throwing away. This can be done by building resource recovery systems which extract the metals, glass and paper and recycling them. The process can produce energy to light our homes and conserve our dwindling oil supplies. In addition, we can save half of our current costs of garbage disposal.

This is the common sense solution to the waste disposal problem—building facilities to recover the valuable natural resources we cannot afford to lose.

The answer does not lie in punitive legislation which would eliminate no-deposit bottles or cans and eliminate thousands of jobs. Scientists tell us that substantial reduction of these containers in waste would destroy one of the major incentives for resource recovery.

Let's redeem the natural resources we're now wasting, and turn a national problem into an economic opportunity.


59% PAPER
12% wood, rags & misc.
9% food waste
8% metals, cans, etc.
6% plastics, rubber, etc.
6% glass beverage and food containers
(3% beverage containers—1½% non-returnables)

**THE TREASURE THAT CAN BE PRODUCED FROM GARBAGE!**

**ELECTRICITY:** In St. Louis, Chicago, New Orleans and other cities, hundreds of millions of kilowatts will be produced from waste.

**METALS:** Steel, tin, aluminum, copper and brass—and other metals in short supply can be recovered.

**GLASS:** All recycled glass can be used to make new bottles, insulation, building materials and road pavement.

**SAVINGS:** Cities and towns can cut costs of garbage disposal in half and stop worrying about finding scarce landfill sites.

## GLASS BOTTLE BLOWERS ASSOCIATION

226 SO. 16TH ST: AFL-CIO PHILADELPHIA, PA.

HARRY A. TULLEY, International President — JAMES E. HATFIELD, International Secretary-Treasurer

tween Harper and Emory, GA, 47.5 miles. Also, SCL will be permitted to install 13 controlled signals to the left instead of over or to the right of the track governed.

Between Jacksonville and Benson, Jct., FL, 115.5 miles of ctc will be installed replacing abs on single main track. Also, relief will be granted from the requirements of signal RS&I Section 236.21 in that SCL will be permitted to install 24 controlled and 4 automatic signals to the left instead of over or to the right of the track governed.

## Signalmen serve 1975 health & welfare notice

Brotherhood of Railroad Signalmen has served the following notice on U.S. railroads concerning revision of contract policy GA-23000 as follows:

(1) Provide a comprehensive dental and vision plan for employes and dependents.

(2) Substitute for the surgical, anesthesia, radiation and X-ray and laboratory schedules, provisions for covering the usual and customary charges for all such services.

(3) Cover the usual and customary charges for prescription drugs as well as for physician's visits either in hospital, in office, or in home, including dependents.

(4) Increase present miscellaneous hospital expense allowances and include all intensive care expense under basic hospital coverage.

(5) Reduce the amount of the deductible under major medical expense benefits and increase the percentage of expense covered after the deductible is met and place a limit on the annual cost an employe and/or dependent would be required to assume thereunder. Eliminate special restriction on psychiatric care.

(6) Improve provisions relating to outpatient expense benefits and increase the amount for ambulance charges to the usual and customary charges for such services.

(7) Provide for any expense incurred by living donor of an organ or a tissue to the extent such donor is not covered under any existing health insurance program.

(8) Provide for any expense incurred insofar as elective surgery is concerned such as voluntary sterilization.

(9) Correct inequities in coordination of benefit provision applicable to covered employes and dependents and correct inequities for qualification for coverage.

(10) Increase the amount of life insurance for active employes and increase the amount for accidental death and dismemberment.

(11) Continue premium payment and full coverage under Group Policy GA-23000 for employes and their dependents who retire prior to attainment of age 65, either for disability or otherwise, until attainment of age 65 or until covered under Medicare provisions or a National Health Program.

(12) Provide that an employe shall become insured on the first day of the month following the first day of his employment.

An understanding shall be reached that any reduction in premium derived by the inauguration of a National Health Program shall be applied as wages or additional benefits.

## Evelyn M. Cotton has fatal accident

Evelyn M. Cotton, wife of retired Grand Lodge Representative A. Norman Cotton recently met with a fatal accident while they were vacationing in St. Petersburg, FL. Born in Toronto, Ont., she was the daughter of Mr. and Mrs. L. J. Atkinson, both deceased.

Evelyn has attended all the Grand Lodge Conventions since 1950 and has been present at all the Canadian General Grievance Committee meetings since 1945.

She is survived by her husband A. Norman Cotton; one daughter Mary, one son Gordon, and nine grandchildren.

"The family and myself wish to extend our sincere thanks and appreciation for the kindness, floral arrangements, letters and the many cards of sympathy from our many friends and members during the time of this fatal accident and the death of our loved one," writes Mr. Cotton.

# News About Members

BURLINGTON NORTHERN: **Raymond M. Korte,** signal maintainer at Louisiana, MO, and a member of Aurora-Galesburg Local No. 103, has retired. **Victor E. Estrin,** CTC signal maintainer at Louisville, MT, and member of St. Paul Local No. 87, has retired. **Willie C. Bradley,** signal maintainer, McCook, NE, has retired. Brother Bradley is a member of Lincoln Local No. 119. **Leonard F. Stiegel,** signalman at Fargo, ND, has retired. He is a member of St. Paul Local No. 87. **Reinhardt D. Jufgens,** signal maintainer at Glendive, MT, has retired. He is a member of St. Paul Local No. 87.

CHESSIE SYSTEM: **F. M. Collier,** signal inspector, Sidney, OH, retired last year. He is a member of Winton Local No. 94. **Fred Dumit,** signal supervisor, Wyoming, MI, retired last July. **C. W. Foster,** signal inspector, Pataskala, OH, retired August 1 last year. He is a member of Winton Local No. 94. **Athey Peters,** assistant signal maintainer, Scottsville, VA, retired July 1 last year. He is a member of Richmond Local No. 148. **Kenneth Rozinski,** assistant signal supervisor, Detroit, MI, retired March 1, 1973. He is a member of Valley City Local No. 123. **E. L. Smith,** signal helper, West Falls, NY, retired July 7, 1973. He is a member of Monumental City Local No. 31. **Harland D. Smith,** signal maintainer at Holland, MI, retired January, 1973. He is a member of Valley City Local No. 123.

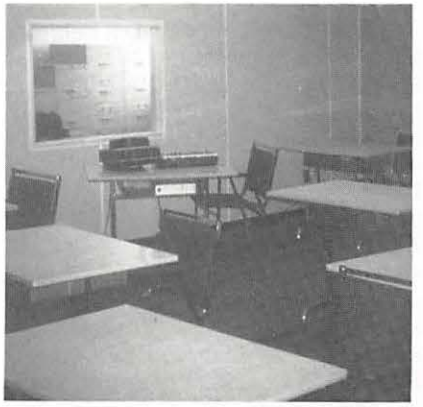
MILWAUKEE ROAD: **William Springer,** signal draftsman, has been promoted to signal maintainer with headquarters at Northbrook Tower A-20 in Illinois. Brother Springer is a member of Local 219.

# News from Canada

Canadian Executive Committee met June 27 and 28 in the new offices in Montreal. Shown in the new Canadian headquarters meeting room are the following: Standing, left to right—**C. J. Chamberlain,** president, BofRS; **John E. Platt,** vice-president; **R. R. Mitchell,** grand lodge representative; **A. Cunningham,** trustee; and **D. McAlpine,** assistant general chairman, TH&B. Seated, left to right beginning at end of table—**J. E. Dubois,** general chairman and secretary-treasurer; **R. E. York,** assistant general chairman, CP West; **K. L. White,** assistant general chairman, TTR; **J. E. Rewcastle,** assistant general chairman, CN West; and **H. Hueston,** assistant general chairman, ONR. Row seated left side of picture and working rear to front—**G. W. Orton,** assistant general chairman, CP East; **D. McManus,** assistant general chairman, CN East; **J. McCormick,** trustee grand lodge; and **J. R. Dickson,** trustee.

Canadian headquarters group in vice-president Platt's office included: Standing, left to right—**John McCormick,** chairman, Canadian trustee; **J. E. Dubois,** general chairman and general secretary-treasurer; **R. R. Mitchell,** grand lodge representative; and **E. Lusignan,** Canadian General Committee Secretary. Seated is **John E. Platt,** vice-president, BofRS.

## Canadian National has new signal school



Portion of a classroom at Canadian National's new signal training school at Winnipeg, Manitoba.

**Glen Robertson,** CN signal training development officer (standing left); **V. A. McGregor,** CN regional engineer signals, are in signal training supervisor **F. L. Hrehirchuk's** office (seated).

The signal training school is equipped with an electronics laboratory, shown here.

# Obituaries

**Harry C. Guscott,** retired member of Local 94, Baltimore & Ohio, died Nov. 12, 1973 in Dayton, OH. He was 66.

Brother Guscott retired Feb. 16, 1972 after completing 30 years of service with the B&O. He began his career with the railroad at Ravenna, OH. Later he worked on a ctc installation for the Dayton Union Railway as a signal maintainer, which position he held until 1952. At that time he took a leave of absence to accept the position of general chairman and secretary-treasurer of the B&O general committee, which included B&O, C&O System, Staten Island Rapid Transit and Dayton Union Railway Co. He served in this capacity from 1952 until 1970.

Brother Guscott is survived by his wife, a son and daughter-in-law.

The officers and members of Local 94 extend their deepest sympathy to the members of his family.

**Roy G. Harris,** age 80, retired member of Kansas City Terminal Local 21, died recently. He was a member of the Lonoke, AR Masonic Lodge and a veteran of World War I.

**D. W. Hemingway,** retired signal maintainer, Seaboard Coast Line, Henderson, NC, died recently. Brother Hemingway retired in 1966 after 41 years of service. He had also served as local chairman of Local 105, now part of Local 16.

**William Howison,** retired signalman Penn Central, died last year. He was 87.

**R. R. Hughes,** retired assistant signal supervisor, C&O, at Richmond, VA, died Nov. 21, 1973.

**M. G. Kepler,** retired communications & signal maintainer, former Pennsylvania, died June 27, 1973. He retired in 1959 after 46 years of service. He was a member of Mountain City Local No. 1.

**William O. Kubsch,** retired signal maintainer, former New York Central, in Michigan City, IN, died Jan. 1, 1974.

At the time of his retirement in 1963 he had served 42 years with the railroad. Also, he was a member of Jackson City Local 28.

He is survived by his wife and two brothers, Eric and Henry, all of Michigan City.

The officers and members of Local 28 extend their deepest sympathy to his family.

**Frederick C. Larson,** retired signal shop foreman, former Great Northern Railway, died recently. When he retired in 1955 he had served 44 years of railroad service, 34 of which were with the Great Northern. After returning from World War I he worked for the Chicago Great Western and served as financial & recording secretary for Local 98. In 1921 he transferred to the Great Northern and was a member of Local 154 and served as local chairman.

**Calvin Lee Morris,** signal maintainer, Seaboard Coast Line, Savannah, GA, died July 8, 1973. Brother Morris was a member of Local 16.

**Walter F. Murphy, Sr.,** member of the Electric Division, Penn Central (former NYC) for 25 years, died March 2, 1974. He was 47.

Brother Murphy was a member of PC Local 76.

He is survived by his wife, two children, parents, and seven brothers and sisters.

The officers and members of Local 76 extend their deepest sympathy to his family.

**Carl L. Osborne,** retired signal maintainer on the former New York Central at South Bend, IN, died Jan. 7, 1974.

Brother Osborne retired in 1959 after 46 years of service with the NYC. At the time of his retirement he was a signal maintainer at H.F. Interlocking in South Bend. Also, he was a member of Local 83 (Elkhart) and had served on its grievance committee.

He was bornJuly 13, 1892, in Sherwood, MI and married Jenny Rowe Oct. 3, 1904, in Goshen. She survives in the Masonic Home, Franklin, IN. Also surviving are two sons, Richard C., Elkhart, and William E., Saginaw, MI; two daughters, Mrs. Dan Stenberg and Mrs. Ruth M. Starner, both of Elkhart; 11 grandchildren; and 11 great-grandchildren.

He was a member of the Trinity United Methodist Church, the Tyrian Masonic Lodge, and Starlight Chapter of the Eastern Star.

The officers and members of Local 83 extend their deepest sympathy to the family.

**Teddie R. Peeler,** retired signal maintainer, Denver & Rio Grande Western, at Midvale, UT, died Dec. 10, 1973. He was 69.

At the time of his retirement in 1969 Brother Peeler had served 41 years on the D&RGW. He was a member of Local No. 24.

The officers and members of Local 24 extend their deepest sympathy to his family.

**A. C. Peterson,** retired member of Local 87, Burlington Northern, (former Northern Pacific) died Jan. 18, 1974.

At the time of his retirement Brother Peterson was a signal maintainer for the Northern Pacific. During his active career he had been a local chairman for Local 87. Following retirement he moved to Sumner, WA.

The officers and members of Local 87 extend their deepest sympathy to his family.

**William Perry Reddish,** assistant signal maintainer, Seaboard Coast Line, Waycross, GA, died May 6, 1973. Brother Reddish was a member of Local 16.

**C. B. Riese,** retired ctc maintainer, Northern Pacific Railway, at Athol, ID, died recently. Brother Riese retired in 1967 after completing over 49 years of service. He also served as local chairman of Local 87.

**Mrs. Evelyn G. Schneider,** stenoclerk in the Chicago office of Penn Central's communication and signal department for over 30 years, died Oct. 1973.

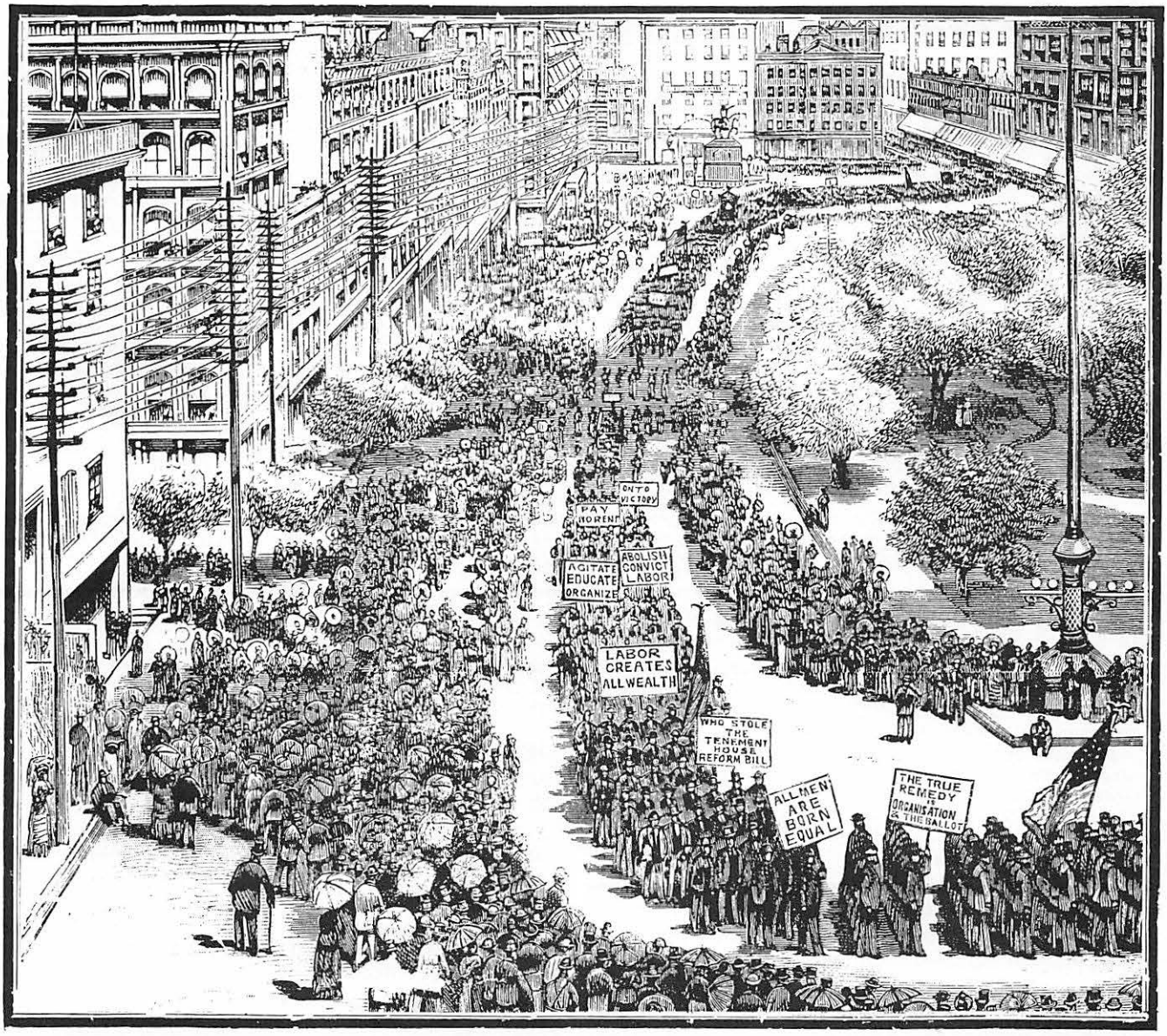
**Edward L. Snyder,** retired member of Local 21, Kansas City Terminal, died recently.

At the time of his retirement in 1970 he was employed as a signal maintainer.

The officers and members of Local 21 extend their deepest sympathy to the members of his family.

**Charles R. Stone,** retired signals & Communications supervisor, Norfolk & Western, Decatur, IL, died Sept. 28.

**Earl R. Thrasher,** retired member of P. J. Lukes Local 153, Southern Pacific, died recently.


ONTO VICTORY
PAY NO RENT
AGITATE EDUCATE ORGANIZE
ABOLISH CONVICT LABOR
LABOR CREATES ALL WEALTH
WHO STOLE THE TENEMENT HOUSE REFORM BILL
ALL MEN ARE BORN EQUAL
THE TRUE REMEDY IS ORGANISATION & THE BALLOT

# "Labor creates all wealth."

This was the legend on a sign (above) in one of the first Labor Day parades.

For over ninety years, since the first Labor Day parade, labor has worked hard to create wealth. And it has, of course, been the great consumer of so much of what it has created.

When people in the labor force today have money, they buy. And the economy booms. When people in the labor force don't have money — they can't buy. And the economy can go bust.

If you make or sell anything, it's in your interest to see to it that American workers have steady work at good pay. When you buy anything, we think it's best to buy from those who buy from you.

Think about it. And when you buy women's or children's garments, look for the union label.

*This label stands for:*
- *The creativity of American design*
- *The skill of American workmanship*
- *The importance of American jobs*

For a reprint of this ad write to Union Label Department, ILGWU, AFL-CIO, 22 W. 38th Street, N.Y., N.Y. 10018, Dept. LP

# The Brotherhood of Railroad Signalmen Group Insurance Trust Family Life Plan

Since our inception, the Brotherhood of Railroad Signalmen has always believed in the importance of personal security for its members and their families. Now, after more than two years of development, the BRS is extremely proud to announce a valuable new benefit that has been exclusively designed to meet the needs of our members. A program of Group Term Life Insurance for the entire family. Through the creation of a permanent Brotherhood of Railroad Signalmen Group Insurance Trust, we feel we have provided higher and broader benefits at competitive low rates. (i.e., $5,000 life benefit under age 30—$3.00 quarterly).

The purchasing power of our nearly 14,000 members allows us to provide a program of life insurance that combines a choice of benefits up to $25,000 for all eligible members under age 70 with a special $5,000 Guaranteed Issue provision for all eligible members under age 55 . . . NO PHYSICAL . . . NO HAZARDOUS DUTY EXCLUSIONS.

## OPEN CHARTER ENROLLMENT

**WHO IS ELIGIBLE TO APPLY**—During this Special Charter Enrollment Period, all active members under age 70 may apply for $5,000, $10,000, $15,000 or $25,000. After this Charter Enrollment only those under age 60 are eligible.

If you wish, you may also insure your spouse for $2,500 if he or she is under age 70 (under age 60 after the Charter Enrollment). Also all unmarried dependent children ages 6 months to 23 years may be insured for $1,000 ($100 age 14 days to 6 mos.). A single premium of $1.05 quarterly covers *all* eligible children in a family.

### SPECIAL GUARANTEED ISSUE PROVISION
### (AVAILABLE ONLY DURING THE CHARTER ENROLLMENT)

All members under age 55 who have been actively employed full-time for the past 60 days are guaranteed the issuance of $5,000 of insurance providing 400 members have applied during this Charter Enrollment Period.

For those applying for the $5,000 Guaranteed Issue coverage, simply fill out *only the shaded portion* of the application. No other proof of insurability is required.

For those applying for family coverage or additional benefits above the $5,000 plan, you must *completely* fill out the application . . . but, the *first* $5,000 of coverage for yourself will still be provided under this Special Guaranteed Issue Provision.

**EXCLUSIONS**—Benefits are payable for death as the result of any cause. Suicide is covered after insurance has been in force for 2 years.

**WAIVER OF PREMIUM**—If an insured prior to age 60 becomes permanently and totally disabled for 9 consecutive months, the insurance will be kept in force without further payment of premiums while the disability continues.

**CONVERSION PRIVILEGE**—An insured member may convert his coverage without evidence of insurability subject to the policy provisions. Your dependents may also convert when you do or upon your death.

**BENEFICIARY**—A member may name anyone as beneficiary and may change the beneficiary at any time by making written application.

**RENEWAL SAFEGUARDS**—As long as you (1) continue your membership in the Brotherhood of Railroad Signalmen, (2) pay your premium and (3) the master policy remains in force, your insurance cannot be terminated and coverage is renewable through age 74.

### HOW TO APPLY

1. Complete the shaded portion of the application for the $5,000 Special Guaranteed Issue Coverage on yourself.
2. If you desire additional coverage for yourself or you wish to add your spouse or children, complete the remainder of the application form.
3. Mail the application with your check for the first Quarterly premium made payable to the:

**BROTHERHOOD OF RAILROAD SIGNALMEN GROUP INSURANCE TRUST FUND**

Group Insurance Trust Administrator
180 N. La Salle St., Suite 3220, Chicago, IL 60601
312/726-9122

*This application does not apply to residents of Maryland, Ohio or Texas. Further information will be mailed to residents of these states in the next few weeks.*

### QUARTERLY PREMIUMS*

| | MEMBER | | | | SPOUSE | CHILD(REN) |
|---|---|---|---|---|---|---|
| | $5,000 | $10,000 | $15,000 | $25,000 | $2,500 | $1,000 |
| under 25 | 2.85 | 5.70 | 8.55 | 14.25 | 1.00 | |
| 25-29 | 3.00 | 6.00 | 9.00 | 15.00 | 1.05 | |
| 30-34 | 3.25 | 6.50 | 9.75 | 16.25 | 1.15 | Additional premium for children: A single premium of $1.05 quarterly insures all eligible children ages 6 mos. to 23 yrs. for $1,000 each. Ages 14 days to 6 mos., $100 each. |
| 35-39 | 4.20 | 8.40 | 12.60 | 21.00 | 1.50 | |
| 40-44 | 6.20 | 12.40 | 18.60 | 31.00 | 2.15 | |
| 45-49 | 9.55 | 19.10 | 28.65 | 47.75 | 3.35 | |
| 50-54 | 14.85 | 29.70 | 44.55 | 74.25 | 5.20 | |
| 55-59 | 23.15 | 46.30 | 69.45 | 115.75 | 8.10 | |
| 60-64 | 32.80 | 65.60 | 98.40 | 164.00 | 12.20 | |
| 65-69 | 52.70 | 105.40 | 158.10 | 263.50 | 18.50 | |
| 70-74 | 81.50 | 163.00 | 244.50 | 407.50 | 24.95 | |

**Premiums are based on member's age (use member's age for spouse premium) on effective date and increases on the anniversary date following the member's entrance into each succeeding age bracket as shown above.*

UNDERWRITTEN BY:

**Bankers Security**
LIFE INSURANCE SOCIETY
Executive Office: Washington, D.C.
Home Office: New York City

**Tear out and mail today**

# BROTHERHOOD OF RAILROAD SIGNALMEN INSURANCE TRUST

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Suite 3220
Chicago, IL 60601

**CHECK COVERAGE DESIRED**

**MEMBER**

☐ $ 5,000
☐ $10,000
☐ $15,000
☐ $25,000

☐ SPOUSE
☐ CHILD(REN)

Bankers Security Life Insurance Society New York, New York 10016
Executive Office: Washington, D.C. 20006

**FOR PLAN OF COVERAGE AS REQUESTED**

1 Full Name (Print)_____ Sex M ☐ F ☐

2 Address _____ City _____ State _____ Zip Code _____

3 Birth Date – Month _____ Day_____ Year _____ Age____ Height _____ Weight _____

4 Beneficiary _____ Relationship _____
Full Name

5a. What is your occupation and duties?_____

5b. Are you actively performing all the duties of your occupation or profession? Yes ☐ No ☐

5c. Have you been actively engaged in your occupation or profession on a full time basis continuously for the past 60 days? Yes ☐ No ☐

6 If dependents are to be covered, give information below:

| Name | Relationship | Date of Birth | Name | Relationship | Date of Birth |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |

7 Have you or any of your dependents consulted any physician, been advised to have medical treatment or surgery, or been hospitalized during the past five years? Yes ☐ No ☐

8 Are you and your dependents to the best of your knowledge and belief in good health and free from physical impairment and disease? Yes ☐ No ☐

9 If your answer to questions 5 and/or 8 is NO, or to question 7 YES, complete below:

| Name | Condition or Ailment and Dates Treated | Type and Nature of Treatment | Name and Address of Attending Physician | Degree of Recovery |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

I understand that the insurance applied for shall not become effective until this application has been approved by the insurer and a certificate of insurance has been issued, and then not as to me if I am not actively engaged in my occupation or profession on a full-time basis, nor as to my dependents if they are hospital confined on the date the insurance would otherwise become effective.

"I hereby authorize any licensed physician, medical practitioner, hospital, clinic or other medical or medically related facility, insurance company, the Medical Information Bureau or other organization, institution or person, that has any records or knowledge of me, or my dependents, or my health, or my dependent's health, to give to the Bankers Security Life Insurance Society any such information.

A photographic copy of this authorization shall be valid as the original."

Signature X _____ Date _____

GL 74-919
BRSL-874a

# Signalman's Worksheet

## DC Track Circuits (Cont'd)

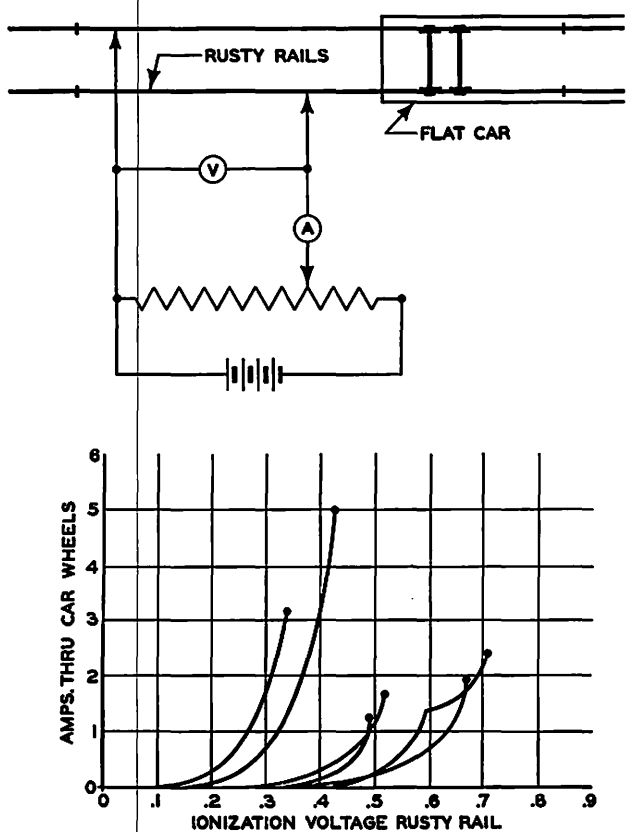



**FIG. 109: Test circuit and graph showing ionization voltage for test conducted on rusty rail.**

Figure 109 shows the test circuit used and the results of tests made on a side track having very rusty rails due to infrequent use. The circuit was very short and the weather dry so that there was practically no ballast leakage. A potentiometer was used so that the voltage applied to the rails could be increased from zero to whatever was needed. One truck of a car was pushed out onto the circuit, then the voltage across the rails was increased until it dropped back to practically zero.

The curves show the result. The dots on the ends of the curves show where the current flow was great enough to decompose the rust, leaving a metal-to-metal contact with practically zero resistance and a voltage and current proportional to the potentiometer setting. Inspection with a magnifying glass after the test showed the two bright metal spots.

After each test, the car was moved a few inches to a new spot. The irregularity of the wheels, rail, and degree of rust account for the variation in the curves.

The most trouble is found in little-used connections to sidings and between switches in crossovers. In such cases, we have found ionization to require more than 0.7 volt. An interrail voltage of 0.7 would put 175 mills through a 4-ohm track relay, a relay that picks up at around 65 mills. Obviously we would have to add resistance in series with the relay, at least 12 ohms, to ensure relay dropaway with this interrail voltage.

At interlockings where the track circuits are short, usually enough relay series resistance can be added. However, in some cases an additional cell of battery must also be added so that required limiting resistance can be maintained. In many cases of side track connections in long track circuits, enough relay series resistance cannot be added, and therefore a separate track circuit must be installed.

**Galvanic Action.** With the coming of the stoker fired engines, came lower ballast resistance and tendency of track circuits not to detect broken rail. This was due to the cinders and unburned particles of coal blown from the stack landing in the ballast and creating galvanic action and in turn voltage between the rails. On a single-track road, a greater part of this material is blown clear of the ballast, but on a multiple-track road not much misses the ballast.

Where one rail has better contact with the ballast than the other, we have a good example of galvanic action. The rail making better contact with the ballast is positive, and the rail making poorer contact, as through the ties, is negative. One theory is that the ions in the ballast attack both rails, carrying the iron into the ballast and in doing so leave their extra electrons on the rails, tending to make both negative. The rail that is in contact with the ballast does not become as negative because the electrons can flow back through the ballast contact. The other rail, where this ballast contact is not present, becomes more negative, and the electrons will flow through the relay across the rails to get back to the ballast. With the presence of this stoker ash with its particles of partly burned coal and in turn sulfuric ions in the ballast, this galvanic action is greatly aggravated.

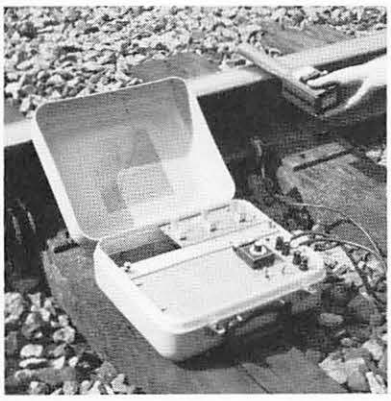
We find this same effect when we thrust one probe of a meter into the ballast and touch the other lightly to the ballast. The meter shows the buried probe to be positive. If we pull the first probe up (but do not remove it entirely) and press the other probe down into the ballast, the meter will read reversed.

*NOTE: Information and drawings furnished by General Railway Signal Co.*

# GRS TRACK QUALITY METER

## MEASURES TRACK BALLAST RESISTANCE QUICKLY AND EASILY

The GRS track quality meter can quickly determine ballast resistance thus cut cost and save time in maintenance and installation of track circuits. Simply clamp the track leads across the rails, position the switches, and adjust the BALANCE control – the BALANCE control digital reading can be translated directly into ballast resistance using the calibrated graph. IT'S THAT EASY!



Only 2 track connections necessary for ballast resistance and track current measurements.

And with the accessory current probe, the meter can just as easily determine track uniformity, low resistance pockets (as may occur at highway crossings), and switch rod insulation and insulated joint efficiencies.

Solid-state circuits, a sturdy light-weight fiber glass carrying case, and its own battery pack make the GRS track quality meter a durable instrument suited for field use.

For more information, write for GRS Catalog 92-6.

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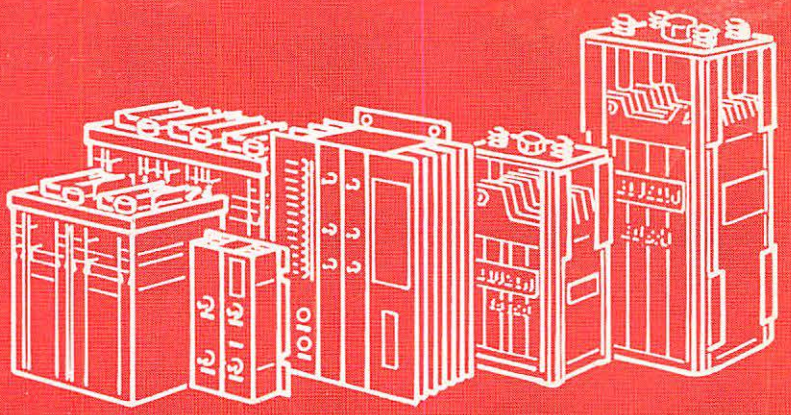

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